Findings and Recommendations for the Proposed Issuance of an Incidental Take Permit (USFWS-PRT-TE032463-0) in Association with the Simpson Timber Company Northwest Operations Habitat Conservation Plan, Shelton, Washington

This Statement of Findings and Recommendation documents the conclusions of the U.S. Fish and Wildlife Service (the Service) with respect to issuance of an Incidental Take Permit under Section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended, (Act), in response to an application from Simpson Timber Company (Simpson). Based on the findings contained in this document, the Service staff recommend approval of the Habitat Conservation Plan (hereinafter referred to as the Plan) and Implementation Agreement (IA), and issuance of the permit to Simpson Timber Company, subject to the conditions described later in this document.

1.0 DESCRIPTION OF PROPOSAL

Simpson seeks an incidental take permit with respect to its forest practices and related land management, and scientific-experimentation activities on about 262,000 acres in western Washington (hereinafter referred to as the Plan Area). Simpson has requested a 50-year incidental take permit from the USFWS to cover incidental take for three federally listed species including, bull trout (*Salvelinus confluentus*), marbled murrelet (*Brachyramphus marmoratus*), and bald eagle (*Haliaetus leucocephalus),* and forty-three unlisted permit species under section 10(a)(1)(B) of the Act. Simpson proposes to manage its lands in the Plan Area pursuant to the Plan and IA (Simpson, USFWS, and National Marine Fisheries Service, 2000) that were developed as part of their permit application. The Plan includes minimization and mitigation measures for both terrestrial and aquatic permit species. Some of these mitigation measures address habitat features and processes that benefit entire groups of permit species, while other measures specifically address individual permit species. The Service's Biological and Conference Opinion, which is herein incorporated by reference, contains a detailed description of the proposal (USFWS 2000).

1.1 Plan Area Description

The area covered in the Plan consists of property currently owned by Simpson (261,575 acres). The Plan Area extends from the southern foothills of the Olympic Mountains south to state Highway 8, and east from the Wynoochee River to Puget Sound (Plan Figure 1). The Plan Area lies within three major watersheds and has six sub-watersheds. Lands adjacent to the Plan Area to the north are managed by the U.S. Forest Service (USFS). To the south, lands are owned by Weyerhaeuser, Port Blakely Tree Farms, and other small private land owners, and managed by the Washington Department of Natural Resources (DNR). To the east, lands are owned by

numerous small land owners and to the west, lands are owned by the city of Aberdeen and Weyerhaeuser (Plan Figure 2).

Simpson is requesting coverage for the Plan Areas and for additional lands that they might acquire in the action area. Although undetermined within the final Plan, these lands (Assessment Area lands outside of the Plan Area) roughly total an additional 640,000 acres surrounding the Plan Area. These lands are not owned by Simpson, but some (likely a small portion) parcels may be acquired by them in the future. These lands are not described within the final Plan in detail. These lands are considered potentially directly affected by the proposed action, because the addition of these lands is conditionally authorized and directed by the IA for the subject action, pursuant to issuance of the proposed Permit. Thus, proposed "lands eligible for inclusion" which surround the Plan Area (see Section 10.0 and Exhibit A of the IA, and Figure 2 of the Plan), are part of the proposed action. Section 1. 8 contains additional information on this provision of the Plan.

The Plan Area contains a variety of aquatic habitat types including streams and wetlands of various classifications. For the purposes of the Plan, Simpson has divided the Plan Area into five regions with similar lithology and topography referred to as litho-topographic units (Plan Section 2.2). Simpson has identified 1,394 miles of streams in the Plan Area, characterized as fish-bearing, non-fish-bearing, perennial, and seasonally intermittent streams (Figure 5 of the Plan). This network consists of approximately 428 miles of fish-bearing streams and 966 miles of non-fish-bearing streams. To provide effective and efficient conservation management, Simpson has created a classification system (hereafter referred to as channel classes) for all streams in the Plan Area. The channel class designations are based on channel width, channel confinement, and channel substrate (e.g., "small channel, highly confined, cascade/bedrock"). Field surveys and Geographic Information System (GIS) mapping were used to document locations and attributes of each stream channel class. A total of 49 channel classes were identified, and they are described further in Appendix B of the Plan. Plan Table 3 lists stream mileage for each channel class.

The Plan Area is located within the western hemlock zone of the Olympic Peninsula Province (Franklin and Dyrness 1973). Predominant tree species in this zone are western hemlock (*Tsuga heterophylla*), Douglas-fir (*Pseudotsuga menziesii*), and western red cedar (*Thuja plicata*). Left undisturbed, these forests develop old-growth characteristics, including large diameter trees, multiple age and size classes, large standing dead trees (snags), and heavy accumulations of fallen trees on the forest floor (Franklin and Spies 1991). Trees may grow to be several hundred years old.

Without the Plan and prior to revised regulations, Simpson managed its property according to Washington State Forest Practice Regulations (Alternative 1/Baseline, EIS Section 2.1). Consistent with these regulations Simpson currently conserves approximately 11 percent (28,773 acres) of the 261,575 acre Plan Area; these are Simpson identified lands to which they applied

specific conservation measures (EIS Section 3.6.1). The remaining portion (232,801 acres) currently consist of commercial timberland; which includes 3,927 acres of non-forest vegetation (i.e., shrublands) and roads. Approximate acreage of forest age class in the Plan Area is shown in Table 1.

Table 1. Approximate acreage of forest age classes in the 261,575-acre Plan Area

Approximate acreage of forest age classes currently present in the Plan Area

Forest Age Class	Area (acres)	Percent
0-15 years old	104,193	39%
16-30 years old	25,349	10%
31-50 years old	32,148	12%
51-70 years old	64,354	25%
71-119 years old	21,760	8%
120+ years old [a]	1,138	< 1%
Non-forest (e.g. roads, rivers and shrubland)	12,058	5%
Totals	**261,000**	**100%**

[a] *Minimum stand size is 5 acres.*

A majority (78 percent) of the area currently available for timber harvest consists of coniferous forest, with the remainder being mixed or deciduous forest. About 30 percent of the forests available for timber harvest are more than 50 years old, and a small portion (1,138 acres) of that forest is older than 120 years. The old-growth forest is primarily distributed along the northern tier of the Plan Area, and these areas are shown as marbled murrelet habitat in Figure 8 of the Plan.

1.2 Covered Activities

Covered activities are described in detail in the Plan (see Section 1.5). These activities are primarily related to timber harvest and associated land-management activities as described in the Plan and defined in the IA.

Specifically, covered activities related to timber production include:

- Mechanized timber harvest

- Log transportation
- Road construction, maintenance, and decommissioning
- Site preparation and slash abatement
- Tree planting
- Fertilizer application
- Silvicultural thinning
- Experimental thinning
- Wildfire suppression
- Mechanized vertebrate control for flat-tail beaver

Other covered watershed activities to monitor or protect and restore aquatic and upland habitat within the Plan Area include:

- Stream restoration
- Research and monitoring
- Electrofishing

1.3 Covered Permit Species

The proposed permit request would cover up to 46 listed and unlisted species under the jurisdiction of the USFWS. Species currently listed include: marbled murrelet, bald eagle and bull trout. Species proposed for listing include coastal cutthroat trout (*Oncorhymchus clarki*). Species on the Federal Species of Concern list include the following: Olympic torrent salamander (*Rhyacotriton olympicus*), tailed frog (*Ascaphus truei*), Van Dyke's salamander (*Plethodon vandykei*), Pacific lamprey (*Entosphemus tridentatus*), river lamprey (*Lampetra ayresi*), western toad (*Bufo boreas*), and harlequin duck (*Historisonicus historionicus*). The Olympic mudminnow (*Novumbra hubbsi*) has been identified as a Washington State Species of Concern. Table 2 contains a list of the 51 permit species for which Simpson is seeking incidental take coverage (five are under the jurisdiction of the National Marine Fisheries Service).

For all 46 proposed covered permit species in the Plan, the USFWS has analyzed the effects of the plan in a Biological and Conference Opinion (Opinion), herein incorporated by reference (USFWS 2000). If the permit species that are presently not listed under the ESA were to be listed at some point in the 50-year term of this Plan, those permit species would be automatically covered, as the permit species name will be listed on the permit upon issuance with a delayed effective date. However, the USFWS could re-analyze the effects of the Plan, and could revoke the permit with respect to these newly listed permit species, but only if it was necessary to avoid jeopardy. The Service will be obligated to use the best scientific information available at the time

of the listing and re-examination of the effects of on-going implementation of the Plan and permit.

It is important to note that the Plan covers take which may occur to proposed Permit Species as a result of trapping directed at flat-tail beaver *(Castor candensis)*, but beaver are not a proposed permit species. Control of flat-tail beaver is proposed as a covered activity. Flat-tail beavers would not be listed on the incidental take permit, and there are no assurances associated with this species. Should the flat tail beavers from the Olympic Peninsula be listed under the ESA in the future, Simpson would need to avoid take of this species or amend the Plan.

Table 2. Species Included for Proposed Incidental Take Coverage in Simpson's Multi-species Habitat Conservation Plan (Status codes at end of Table).

COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	FEDERAL RESPONSIBILITY
Headwater Species Association				
Torrent salamander	*Rhyacotriton olympicus*	FSC	SM	FWS
Tailed frog	*Ascaphus truei*	FSC	SM	FWS
Cope's giant salamander	*Dicamptodon copei*		SM	FWS
Western red-backed salamander	*Plethodon vehiculum*			FWS
Steep Tributary Species Association				
Cutthroat trout	*Oncorhynchus clarki clarki*	FP		FWS
Shorthead sculpin	*Cottus confusus*			FWS
Van Dyke's salamander	*Plethodon vandykei*	FSC		FWS
Flat Tributary Species Association				
Coho salmon	*Oncorhynchus kisutch*	FC		NMFS
Chum salmon	*Oncorhynchus keta*	FT		NMFS
Riffle sculpin	*Cottus gulosus*			FWS
Coast Range sculpin	*Cottus aleuticus*			FWS
Reticulate sculpin	*Cottus perplexus*			FWS
Speckled dace	*Rhinichthys osculus*			FWS
Brook lamprey	*Lampetra richardsoni*			FWS
Mainstem Species Association				
Chinook salmon; Puget Sound	*Oncorhynchus tshawytscha*	FT		NMFS

Steelhead trout; searun and resident	*Oncorhynchus mykiss*			NMFS
Pink salmon	*Oncorhynchus gorbuscha*			NMFS
Bull trout; Columbia R. and Coastal/Puget Sound pop.'s	*Salvelinus confluentus*	FT		FWS
Dolly varden	*Salvelinus malma*			FWS
Torrent sculpin	*Cottus rotheus*			FWS
Longnose dace	*Rhinichthys cataractae*			FWS
Pacific lamprey	*Lampetra tridentatus*	FSC		FWS
River lamprey	*Lampetra ayresi*	FSC		FWS
Western toad	*Bufo boreas*	FSC		FWS
Lentic Species Association				
Prickly sculpin	*Cottus asper*			FWS
Olympic mudminnow	*Novumbra hubbsi*		SC	FWS
Threespine stickleback	*Gasterosteus aculeatus*			FWS
Northwestern salamander	*Ambystoma gracile*			FWS
Long-toed salamander	*Ambystoma macrodactylum*			FWS
Red-legged frog	*Rana aurora*			FWS
Wildlife Species				
Marbled murrelet	*Brachyramphus marmoratus*	FT	ST	FWS
Bald eagle	*Haliaeetus leucocephalus*	FT	ST	FWS
Harlequin Duck	*Histrionicis histrionicus*	FSC	SG	FWS
Band-tailed pigeon	*Columba fasciata*		SG	FWS
Roosevelt elk	*Cervus elaphus Roosevelti*		SG	FWS
Class 1 Snag Dependent Species - Typically use 8.0-14.0" dbh snags				
Downy woodpecker	*Picoides pubescens*			FWS
Black-capped chickadee	*Parus atricapillus*			FWS
Class 2 Snag Dependent Species - Typically use 14.1-20.0" dbh snags				
Western bluebird	*Sialia mexicana*		SM	FWS
Purple martin	*Progne subis*		SC	FWS

Chestnut-backed chickadee	*Parus rufescens*			FWS
Red-breasted sapsucker	*Sphyrapicus ruber*			FWS
Tree swallow	*Tachycineta bicolor*			FWS
Violet-green swallow	*Tachycineta thalassina*			FWS
Hairy woodpecker	*Picoides villosus*			FWS
Western screech owl	*Otus kennicottii*			FWS
Northern pigmy owl	*Glaucidium gnoma*			FWS
Northern saw-whet owl	*Aegolius acadicus*			FWS
Northern flicker	*Colaptes aurotus*			FWS
Class 3 Snag Dependent Species - Typically use >20" dbh snags				
Pileated woodpecker	*Dryocpops pileatus*		SC	FWS
Wood duck	*Aix sponsa*		SM	FWS
Common merganser	*Mergus merganser*		SG	FWS

Federal Status Codes:

FT - Federally threatened

FC - Federal candidate

FSC - Federal species of concern

FP - Federally proposed

State Status Codes:

ST - State threatened

SC - State candidate

SS - State sensitive

SG - State game species of concern

SM - State monitor species

FWS - Fish and Wildlife Service

NMFS - Nat. Marine Fish. Service

1.4 Time Period

The proposed Plan and permit would be in effect for a period of 50 years. The IA describes provisions for early termination, suspension, or revocation of the permit.

1.5 Post-Termination Mitigation

In accordance with section 17.22(7) of the ESA regulations, and guidance from the Service's Regional Office (Badgley and Spear, 2000), Simpson's Plan contains measures to address post-termination mitigation. When impacts to permit species occur early in the permit term in exchange for mitigation that becomes effective later in the permit term, the permittee must provide that mitigation even if the permit is terminated prior to the end of the permit term. This post-termination mitigation obligation applies to all permit species, regardless of their ESA

listing status. If the mitigation measures are commensurate with the impacts of take throughout the term of the permit, no mitigation debt is incurred. These actions are often termed "pay-as-you-go."

The key factor considered in making post-termination mitigation determinations is a comparison of the impacts of take with the expected mitigation benefits over time. This comparison should be based on the status of each permit species and the existing environmental baseline, along with the direction, magnitude, and duration of its habitat improvement trend during the permit term. Other factors include the impacts of take from each covered activity, knowledge base or specificity of habitat conditions on that particular landscape, the length of time that the permit has been in effect prior to early termination, and any modifications that may have resulted form implementation of adaptive management strategies.

The 46 proposed permit species were placed into three categories to evaluate post-termination mitigation status in case the permit is suspended or revoked prior to year 50 (Table 3). Under any scenario, Simpson would not harvest timber left in units harvested according to the Plan in the riparian conservation reserves, wetland buffers, upland leave trees, and trees left in mineral spring buffers, and would continue to follow the herbicide restrictions for band-tailed pigeons up until year 50. This would be the only post termination mitigation available for Category B species.

Table 3. Post Termination Mitigation Categories for Proposed Permit Species

Category A	Category B	Category C
Torrent salamander	Prickly sculpin	Marbled Murrelet
Tailed frog	Olympic mudminnow	Bald eagle
Cope's giant salamander	Threespine stickleback	Roosevelt elk
Western red-backed salamander	Long-toed salamander	Downy woodpecker
Cutthroat trout	Northwestern salamander	Black-capped chickadee
Shorthead sculpin	Red-legged frog	
Van Dyke's salamander	Chestnut-back chickadee	
Riffle sculpin	Western bluebird	
Coast Range sculpin	Purple martin	
Reticulate sculpin	Red-breasted sapsucker	
Speckled dace	Tree swallow	
Brook lamprey	Violet-green swallow	
Bull trout	Hairy woodpecker	
Dolly varden	Western screech owl	
Torrent sculpin	Northern pigmy owl	
Longnose dace	Northern saw-whet owl	
Pacific lamprey	Northern flicker	
River lamprey	Pileated woodpecker	
Western Toad	Wood duck	
	Common merganser	
	Harlequin duck	
	Band-tailed pigeon	

If the permit is revoked or terminated prior to either (1) year 10 and completion of 75% of the road inventory projects or (2) completion of 100% of the road inventory projects, additional, and currently undefined, post-termination mitigation may be required for Category A species. If the permit is revoked or terminated after either of these events, then the only post-termination mitigation available for Category A species is the commitment to not harvest timber left in the riparian conservation reserves, wetland buffers, upland leave trees, and trees left in mineral spring buffers, and continue to follow the herbicide restrictions for band-tailed pigeons up until year 50.

Category C species are proposed as "pay-as-you-go" species and no post-termination mitigation would ever be required.

Category A species include most of the permitted fish and several amphibians where the assumption is that roads and mass wasting, and the delivery of coarse and fine sediments resulting from them, are the biggest threat and the source of the greatest amount of take for these species. Completion of 75% of the identified highest priority road remediation projects will improve habitat condition for these species after year ten. Simpson's record of implementation shows that much of the work needed to accomplish this, primarily the road inventory program, has already begun. The Services expect that the road remediation program, which identifies and fixes the greatest threats first, would be substantially accomplished by year eleven (completed to at least 75% of the "priority" projects with ten full operational years following permit issuance). The Plan has an uncapped road remediation budget for the first fifteen years of the permit, which will lend additional assurance that at least 75% of the roads will be completed by year ten, further supporting the Services' view that "pay-as-you-go" is warranted for species included in Category "A". Take of habitat through experimental silviculture and upland management is managed on a site-by-site basis instead of programmatically as roads are. Monitoring of the silviculture prescriptions by years ten to fifteen will demonstrate whether or not the initial proposed prescriptions are meeting the established ecological goals of moving towards old (greater than 120 years) forest characteristics, or need to be adapted. The species in Category A could thus require post-termination mitigation until year ten of the Plan period, and most likely not after that time.

Category B permitted species include lentic associated fish and amphibians, as well as all of the cavity nesting birds, harlequin duck and band-tailed pigeon. For these species, the only post-termination mitigation available is that Simpson would not harvest timber left in the riparian conservation reserves, wetland buffers, upland leave trees, and trees left in mineral spring buffers, and would continue to follow the herbicide restrictions for band-tailed pigeons up until year 50. In the event of early permit termination or revocation, this should be adequate to minimize and mitigate impacts of take for these species, as their essential habitat needs should be provided by the snags and green leave trees left in the riparian conservation zones, buffers on both forested and non-forested wetlands, and the Supplemental Wildlife Tree conservation Program which conserves eight trees per acre at least ten inches diameter breast height (DBH) for each section in the Plan Area that currently does not meet this eight trees per acre threshold.

Category C permitted species includes bald eagle, marbled murrelet, Roosevelt elk, downy woodpecker and black-capped chickadee. These species are not disproportionately affected by implementation of the Plan related to the minimization and mitigation measures provided in the

Plan. Most of these species will directly benefit from disturbance avoidance measures throughout the term of the permit and habitat conditions for these species will remain relatively constant or improve during the term of the Plan. Simpson will not be obligated to provide post-termination mitigation for the benefit of any of the species listed as Category C.

1.6 Monitoring and Adaptive Management

Modifications of conservation strategies and management practices may be implemented as a result of new information obtained from monitoring, research, or other sources during the term of this proposed incidental take permit. Several areas that will be the focus of specific monitoring and for which adaptive management is likely are enumerated in Section 9 of the Plan. Current and future monitoring program elements Simpson will carry forward or create under the Plan include:

- Amphibian distribution and relative abundance
- Riparian forest conditions (including snag inventories)
- In-channel habitat conditions
- Stream temperature.

Simpson has developed a number of monitoring and research questions directed at specific management issues that relate to the watershed input and processes necessary for improving function of aquatic and riparian systems (Plan Section 9.4). A work plan will be developed from each monitoring question that will have multiple objectives and testable hypotheses. Developing the hypotheses and work plans will be completed by year 2 of the proposed permit period, after which time the Resource Monitoring Program will be adapted to meet the requirements of the Plan. A Science Advisory Team will be established to provide outside peer review of the resource assessment, monitoring and research and the adaptive management aspects of the Plan. Information obtained through the monitoring program may trigger a change in the management strategy to more effectively minimize or mitigate effects of timber management activities.

Adaptive Management is a component of the Simpson Plan which was carefully crafted to account for a number of variable factors. The adaptive management is not a component upon which the Service need rely to complete its findings. Rather, the adaptive management component provides the Service with additional assurances that the species needs will be met beyond the basic or fundamental attainment of the issuance criteria. The Service is relying on the combination of existing conservation measures to achieve its habitat and species objectives. In fact, the site-specific and function-specific nature of the conservation measures reduce the likelihood that adaptive management will be needed.

The adaptive management acreage account is an initial deposit in an account and represents a bonus of conservation. While the standard view of adaptive management is that adjustments will be made in some situations to benefit the species, and other corresponding or complimentary adjustments would have to be made elsewhere to allow the permittee to retain financial considerations. In this case, the account has a head-start. The initial deposit will allow the Services to receive adaptive management adjustments without the need for corresponding relaxation in prescriptions or restrictions elsewhere. However, the adaptive management acreage account is an integral part of the Plan and its operating conservation program. Adaptive

management is complimentary to the No Surprises regulations, and, as such, a specific level of limitations to additional mitigation is appropriate to address data gaps and conservation uncertainties inherent to this specific plan.

The Plan describes in section 10.5.2 how the adaptive management acreage account will be managed to track relaxation and expansion of Plan prescriptions and restrictions in a manner which balances the needs of Simpson's ability to conduct it activities with the needs of the resources for conservation. The Plan provides a mechanism to exchange restricted acres for other restricted acres, to exchange green leave trees for acreage, and to adjust the account for changes (additions and deletions) of covered lands. If monitoring and research establishes that in some stream segments the buffers are unnecessarily wide, these buffers can be reduced and the resulting acreage "savings" would be added to the account for application elsewhere in the Plan Area. The Plan also provides a mechanism which addresses the potential for inflation.

In addition to the analyses described in the Plan, the Service also conducted an analysis of potential topics for increased conservation. The Service focused on small headwater streams and calculated how many trees and acres it would require to provide yet additional protection, should it be required. We believed that of all the conservation measures, this was perhaps the most likely to require change, should any change be required or desirable. The initial deposit in the adaptive management acreage account of 920 acres was found to be adequate to address the Service's potential needs in that situation, which was believed to be the most likely to occur. In fact, this aspect of the Plan was changed so that there is now far less uncertainty than during the Service's review of the draft Plan. Should additional conservation needs arise, the Service would expect to deal with those situations through the deposit and withdrawal mechanisms provided in the adaptive management acreage account.

Should other circumstances arise which would require changes to the Plan, the Service believes those changes would be most appropriately dealt with through other mechanisms. The Plan already provides that certain actions will be dealt with by Simpson outside the realm of adaptive management. Simpson will be repairing roads as a result of storm damage in accordance with the Plan. Also, unmapped unstable slopes will be protected without drawing from the adaptive management acreage account. Should selective harvest areas be deemed inappropriate for management, Simpson will change the status of these lands to no-harvest areas. Simpson may also need to change operational procedures which increase cost but do not encumber additional acreage, and these changes would be made without deducting from the adaptive management acreage account. Other mechanisms for change include the changed circumstances addressed in the Plan. The Services also retain the option to purchase additional conservation in accordance with the No Surprises regulations or, as a last resort, upon exhaustion of the vast resources of the Federal Government of the United States, to terminate the permit in order to avoid jeopardizing the continued existence of a listed species. Together, these mechanisms provide the ability to address a range of circumstances that span the ordinary and expected, to the unusual and unforeseen.

In summary, the Services have a high degree of confidence in the likelihood that the initial prescriptions will achieve the stated resource objectives and contribute to the recovery of the covered species. In those few areas where a higher level of uncertainty remains, the Services and Simpson have provided for this uncertainty through the adaptive management process. While the exact level of the initial deposit is not a scientific process nor can the appropriate initial

deposit be determined by application of a single formula, the concept of limitations to additional mitigation is inherent in the No Surprises rule. The Services believe that the specific caps identified in the Plan are appropriate and commensurate with the risks associated with its implementation.

1.7 Potential Plan Benefits

Although the proposed action will result in impacts to covered permit species, positive benefits derived from the proposed conservation and mitigation measures are expected when compared to current conditions or those that might result from continuation of the current management regime, these include:

- An increase in the amount and distribution of mature, late-successional, and old-growth forest Figure 1
- Development of a watershed-level monitoring program to answer Lithotopo unit specific management questions, and develop associated aquatic and stream restoration research monitoring
- Road improvement and decommissioning actions to reduce or eliminate ongoing degradation resulting from previous management
- Development of fully functional riparian areas, and an overall landscape conducive to natural functions with maintained and improved conditions
- Water quality measures including, sedimentation, siltation, and temperature would be improved as a result of road and riparian management prescriptions and the TMDL.

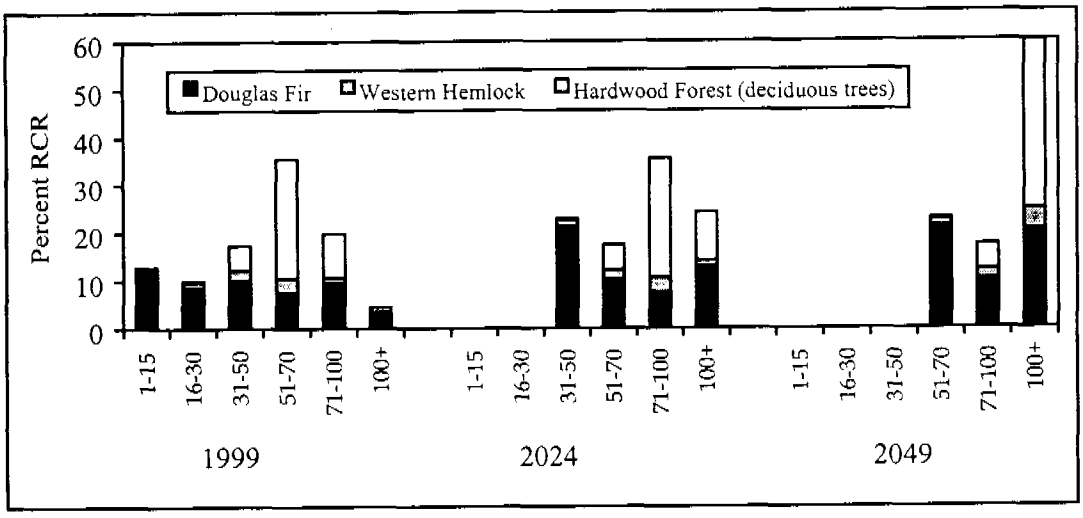

Figure 1. Percent of forest cover types in RCR by age, for beginning, middle and end points of the plan period (Simpson 1999).

1.8 Acquisition of Land by Simpson

Simpson may elect to include in the Plan and the Permit any lands that at the time of the proposed inclusion are within the outer boundaries of the Assessment Area (see provision 10 of the IA); do not contain any litho-topo features or stream types not analyzed in connection with the original Plan; and have been managed by Simpson in accordance with the prescriptions in the Plan. The initial Plan Area is approximately 262,000 acres, the Assessment Area is approximately 900,000 acres.

Simpson will provide the Services with baseline characteristics for the lands to be added; a map showing the lands to be added and the location of all roads on such lands; number of acres by litho-topo unit; number of stream miles by Plan channel class; number of Riparian Conservation Reserve (RCR) acres; RCR timber stand age(s) and composition; number of wetland, lake, and forested wetland acres; number of road miles; a general description of the condition of the roads; a general description of the unstable slopes; leave tree density (for snag distribution purposes); the location of any known cultural resources; and the distribution of Permit Species across the landscape. Simpson will also provide written analyses, demonstrating that the net effect on the environment and on the Permit Species on the lands proposed for addition that would result from the management of such lands in accordance with this Agreement and the Incorporated Plan Sections, would not be significantly different from the net effect on the environment and the Permit Species on the lands initially included in the Plan Area that has resulted and will thereafter result from the management of such lands. These factors will ensure that the ratio between the minimization and mitigation measures which occur on those lands and the level of impact which occurs to permit species will be equivalent or better than the ratio without those lands. This will ensure that the mitigation will remain commensurate with the impacts even with the addition of these lands. Allowances were also made to increase the adaptive management cap as the land base covered by the permit increases.

2.0 Public Comments

The Services formally initiated an environmental review of the project through a Notice of Intent to prepare an Environmental Impact Statement in the Federal Register on February 9, 1999 (64 FR 6325). This notice also announced a 30-day public scoping period, during which other agencies, tribes, and the public were invited to provide comments and suggestions regarding issues and alternatives to be included in the Statement.

A draft EIS was subsequently produced and made available for a 62-day public review period on October 22, 1999 (64 FR 57630). The comment period was extended for 18 days to January 14, 2000 (65 FR 761), in direct response to requests from the public. This resulted in a total comment period duration of 80 days.

Nineteen comment letters were received by the Services: 4 from government agencies; 5 from tribal representative organizations; 7 from public interest groups; and 3 from individual citizens. Many of the comments and suggestions were incorporated into the proposed Plan and FEIS. Appendix D of the FEIS contains a summary of those comments, the Service's responses, and a summary of changes made to the Plan and EIS. The Final Environmental Impact Statement was noticed in the Federal Register on July 20, 2000 (65 FR 45038). Responses to the three public

comment letters received on the FEIS are in the ROD (USFWS/NMFS 2000).

3.0 ISSUANCE CRITERIA - ANALYSIS AND FINDINGS

The issuance criteria for an incidental take permit are contained in the Endangered Species Act and its implementation regulations (50 CFR 17.22, 17.32). According to the Act, the Secretary shall issue the requested permit, if the Secretary (delegated to USFWS) finds that the issuance criteria are being met. These criteria are:

- The taking will be incidental
- The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking
- The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild
- Other measures and assurance have been provided
- The Director has received assurances that the plan will be implemented.

3.1 Taking will be incidental

The proposed permit and IA do not authorize any intended, directed, or purposeful take of proposed permit species. The intended purposes of the applicant, relative to the covered activities, are to conduct profitable timber management and to minimize and mitigate the effects of any take for all the proposed permit species.

Any take of bull trout, marbled murrelets, bald eagles, or any unlisted species dependent on the habitat types addressed and covered in the Plan, will be incidental to otherwise lawful forest management and related land-use activities by Simpson, as specified in the Plan.

Taking of species covered by the Plan, IA, and proposed permit would result from, but would not be the purpose of, otherwise lawful activities conducted or carried out by Simpson or persons authorized by Simpson. The Plan and IA do not authorize any intended, directed, or purposeful take of any wildlife proposed as permit species. The Plan covers take which may occur to proposed permit species as a result of trapping flat-tail beaver *(Castor candensis)*, but beaver are not a proposed permit species.

The proposed incidental take permit would only authorize incidental take in connection with commercial forest management considered in the Plan (Section 1.2 herein) on Simpson's ownership in its Western Washington properties. These activities are ultimately linked to commercial timber management and harvest. The activities conducted under the permit must be consistent with Federal, State, and local laws. The intent is to avoid take where practicable.

However, when take is unavoidable, it will occur incidental to the aforementioned activities.

3.2 Simpson Timber Company will, to the maximum extent practicable, minimize and mitigate the effects of taking listed species and effects to other Permit species that may occur on lands and waters covered in the Plan.

Sections 5, 8, 9, 10, and 14 and Appendices B, C, and F of the Plan, contain prescriptive activities and measures to minimize and mitigate the impacts of take of proposed permit species. In order for the Service to issue an Incidental Take Permit under §10 of ESA, we must evaluate whether Simpson has met their obligation to minimize and mitigate impacts to the maximum extent practicable. In making this evaluation, the Service considered baseline environmental conditions, status of the species, whether the conservation program was based on a sound biological rationale, and whether the minimization and mitigation measures are commensurate with the impacts of the proposed take.

The impacts of incidental take expected to occur from the timber management and covered activities covered under the Plan and IA are summarized below and analyzed in detail in the Service's Biological/Conference Opinion and in the FEIS, both of which are hereby incorporated by reference. Baseline environmental conditions, and status of each permit species are also analyzed in detail in the Opinion. As indicated in the Opinion, the impacts will vary amongst the covered species depending on their habitat requirements, presence within the plan area, and conservation status. The Plan conservation measures are tailored to the specific habitat needs of each of the permit species by association with their habitat and are designed to effectively minimize, and to the extent take is likely to occur, mitigate the impacts of timber management activities on the species.

The Service has determined that the proposed minimization and mitigation measures are based on a sound biological rationale for all the permit species. Simpson spent a considerable amount of time and resources developing a site specific, science-based approach to managing their lands. Their approach is based on ecosystem structure and dynamics as influenced by geologic settings, climatic factors, and their interaction. The influences of the geologic setting and associated physical process on the Plan Area aquatic habitats were captured by stratifying the landscape into areas of similar lithology and topography (lithotopo units). A second level of stratification consists of classifying stream segments of the channel network within each lithotopo unit. In addition to the development of site-specific strategies, Simpson has committed to implement an adaptive management program to allow adjustments to the minimization and mitigation measures over time, should initial biological assumptions prove inaccurate or as additional information is available.

The impacts of take for 40 of the proposed permit species in the Simpson Plan are expected to be low. These species are relatively wide ranging and fairly well distributed within their range. In addition, north of the Plan area, Federal lands that are managed under the Northwest Forest Plan currently provide habitat for these proposed permit species. These Federal lands reduce their dependence upon, and contribute to their long term survival of the proposed permit species in the Plan Area.

Six of the proposed permit species have a greater impact of take; these include Coastal cutthroat trout, bull trout, marbled murrelet, bald eagle, Olympic torrent salamander and Van Dyke's salamander. Bull trout, cutthroat trout and marbled murrelet are declining in numbers. Olympic torrent salamander and Van Dyke's salamanders are declining in number and are highly restricted in their range and distribution. For these proposed permit species, the significance of the impact from the proposed Plan is higher. However, the level of mitigation in the proposed Plan is also more substantial these six species than for the other more abundant and/or well distributed proposed permit species. Federal lands in the region which are managed under the Northwest Forest Plan conserve substantial habitat for these proposed permit species and, consequently, contribute to ensuring their continued long-term survival in the Plan Area.

Generally, the impacts of incidental take under the Simpson Plan, and the effectiveness of the Plan's minimization and mitigation measures to compensate for this take, depend on the habitat type upon which the proposed permit species is dependent.

3.2.1. Listed Avian Proposed permit species – Marbled Murrelet and Bald Eagle

In an attempt to ensure that all murrelets present on the Plan Area are accounted for, Simpson conducted surveys of suitable nesting habitat in the Plan Area identified in 1994. A total of 1,138 acres of suitable habitat were found to be present during the 1994 murrelet nest habitat inventory. This habitat was in 38 separate areas, with an average stand size of 30 acres and an average age of 226 years old. Additionally, marbled murrelet habitat that was entirely or partially outside the RCR was surveyed in 1998 with ten surveys, and again in 1999, to complete two consecutive years of surveys of ten surveys each year, for each survey site. Simpson is conserving all occupied habitat within and outside of the conservation areas, as well as all suitable habitat within conservation areas. Additionally, they are conserving all habitat that develops in the future within conservation areas. This conservation benefits bald eagles as well as marbled murrelet.

At the present time Simpson is conserving 72% of currently existing old growth on the Plan Area; by the end of the permit period, they intend to conserve an additional 2,186 acres within the conservation areas (approximately 15% of all old growth expected to develop outside the conservation areas (EIS Section 4.9.1.2). Simpson is setting aside 32,081 acres (12%; includes riparian buffers, unstable slopes and late-seral forest reserves) in conservation areas within the Plan Area which could benefit marbled murrelet and bald eagle. Simpson has committed to protect all suitable unoccupied and occupied marbled murrelet habitat within these conservation areas. The conservation of these lands benefits bald eagles as well because of some similar habitat requirements of these two proposed permit species.

According to the EIS the amount of acres protected through the RCR, wetland and unstable slope Conservation areas under the proposed plan is less than the amount that would be conserved under the State Forestry Regulations with the Forests and Fish Report Recommendations (FFR). Appendix A of this document contains additional information comparing the Plan with FFR. Specifically, the amount of acres conserved on Type 1-3 streams under the proposed action is 4,526 less than the amount conserved under current management. This is a result of identifying buffers in the Plan using the hydro-geomorphic strategy, which does not require that the same amount of land be protected to maintain function in the riparian areas. While this benefits

aquatic species, it does not result in as much acreage being set aside for proposed site specific approach bird species.

The birds that would be most affected by less riparian acreage being protected under the Plan compared to FFR, are those that use riparian habitats for nesting, foraging or perching, and includes bald eagle. Bald eagles have a large home range and will nest, forage, roost and perch in riparian habitat directly adjacent to streams, as well as habitat further away but near to streams. They use upland areas for roosting and perching. Conservation areas outside the riverine RCRs such as wetlands and late-seral forest reserves benefit bald eagles by providing additional riparian habitats, and help to minimize or offset the fact that less acres are conserved in the riverine RCRs. FFR does not include any buffers for forested wetlands. In addition to nesting, perching, roosting and foraging habitat provided within these conservation areas in the Plan, the Plan will provide snags and recruitment trees through the Supplemental Wildlife Tree Program in areas within the Plan Area that currently do not have many snags. This will ensure that snags and recruitment trees are well dispersed over the Plan Area, providing perching, foraging and roosting habitat for bald eagles.

According to the Plan, Simpson will comply with all Washington state rules that were in place at the time of permit issuance regarding the conservation of eagle roost and nest sites (RCW 77-12-655; WAC 232-12-2992). Because Simpson will harvest the old growth outside the conservation areas they were not willing to continue surveying for marbled murrelets on an annual basis. They will, however, conserve stands that become occupied outside the conservation areas should this occupation be observed during the normal course of their management activities. Based on the species-specific analysis of the amount of take, level of impact and applied conservation measures, it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable with regard to marbled murrelet and bald eagle.

3.2.1.3 Mainstem Species Association

According to the Biological Opinion, the number of torrent sculpins and western toads anticipated to be taken is moderate; the number of longnose dace and river lampreys anticipated to be taken is small, and; the number of bull trout and Pacific lampreys anticipated to be taken is small to moderate. The number of individuals taken is directly related to the number expected to occur in the Plan Area during the permit term, and due to the level of protection provided by the proposed Plan. All of the species in this association are fairly well to very well distributed; and with some notable exceptions their status range-wide is not of serious concern. However, bull trout (and by default Dolly Varden) and western toad are declining although they have varying degrees of status (i.e., Federal and State).

The mitigation proposed under the Plan would likely provide improved habitat (over that currently existing) for proposed permit species in the Mainstem Association through the proposed permit term. The proposed riparian strategies would likely enhance riparian and river/stream habitat function, helping to minimize and mitigate the impacts from the proposed covered activities.

The channel classifications for the Mainstem Species Association fall under the two proposed riparian strategies: the Channel Migration and Inner Gorge. The Channel Migration Strategy emphasizes retaining sediment and organic matter, and maintaining nutrient processing. Other riparian forest functions would be provided through this strategy including, bank stability and the growth of large specimen cedar and spruce trees for contribution of large woody debris (LWD), which are critical for maintaining deep pools required by large fish. The primary management function of the proposed Inner Gorge Riparian Strategy is to provide LWD from unstable slopes large enough to maintain position or lodge in channel classes consistent with those in the mainstem. The largest trees that have the highest likelihood of recruiting to the river would be retained under this strategy (Plan Appendix B).

RCRs boundaries will be established on all channel segments in the Alpine Glacial (AGL), Sedimentary Inner Gorge(SIG) and the Recessional Outwash Plain LTUs' in the Plan Area for Mainstem Associated Species. Those channel classes include AGL-Qa6, AGL-Qo8, SIG-Qa6, SIG-L4, ROP-Qc7 and ROP-Qc8 (Table aquatic take). Riparian buffers for these channel classifications range from an average of 15 to 65 meters, and all are identified as no harvest with the exception of experimental thinning (discussed later).

Impacts to proposed permit species in the Mainstem Association would be due primarily to increased sedimentation and siltation of streams from thinning, road building and maintenance activities in the RCR and upland areas, and timber harvest in upland areas. The establishment of buffers along streams and wetlands in the RCR and wetland conservation areas would minimize most impacts from thinning and minimize impacts from upland timber harvest. Only experimental thinning would be allowed within the RCR in these channel classifications. The buffer widths assigned to various channel classifications would be expected to minimize impacts from timber harvest because their widths would in many cases be approximately equal to or greater than 100 feet (the minimum identified to minimize impacts of timber harvest to these stream types according to the peer-reviewed literature).

The proposed road management program (see Section 5.2.4 of the Plan) would reduce sedimentation and siltation entering streams utilized by species in the Mainstem Association, but effects would likely occur throughout much of the Plan Area. Simpson would limit road construction through riparian areas. Impacts in the form of lost acreage from road construction in the RCR would be mitigated, and any new roads constructed under the Plan would be built according to best management practices and standards.

Proposed riparian prescriptions and strategies, along with the proposed road management plan, have been designed to minimize the potential for water quality effects, including increases in water temperature. To address the adverse impacts resulting from water quality degradation, the proposed action includes a Total Maximum Daily Load (TMDL) agreement that the applicant would implement to fulfill their obligations under the Clean Water Act.

Bull trout and other mainstem association species are intolerant of elevated water temperatures, which increase when the channel widens and shallows in response to increased sedimentation. Channel modifications cause the summer flows to spread out over broad riffles, which are more exposed to solar radiation. Absorption of heat in these areas contributes to temperature increases in large rivers. Proposed riparian prescriptions and strategies along with the proposed road

management plan have been designed to minimize the potential for water quality effects, including increases in water temperature

Electrofishing will be used as minimally as possible, specifically only 1 pass will be made in a stream reach in order to identify the "last fish" and establish presence of listed proposed permit species. If a fish species is found in a stream reach previously identified as non-fish bearing, the buffers will be enhanced by changing them from discontinuous to continuous and increasing the width from approximately 10 to 20ft to 66ft from the point of measurement (e.g., CDZ). This should provide additional minimization of impact that occur during the course of performing the covered activities. This additional riparian buffer would provide long-term benefits that would mitigate for any short-term impacts from electrofishing. While it is unlikely Simpson will conduct electrofishing on the mainstem river, bull trout may also occupy higher reach streams where stream typing, and thus electrofishing may occur.

Experimental thinning will occur on the mainstem. A maximum of 1000 acres of thinning will be conducted over the entire Plan Area, and approximately 19 percent of those acres will be harvested from Lithotopo units associated with mainstem species (where bull trout are primarily expected to occur). Road density in the Plan Area, particularly in Lithotopo units (AGL and SIG) associated with bull trout, is much greater (order of magnitude) than the amount identified as associated with adverse effects for this proposed permit species. Simpson is planning on decommissioning roads that have a high potential for failure and those located in riparian areas. They have begun prioritizing the road projects and have preliminarily identified roads for dormancy and decommissioning. They expect most of this mileage to occur in the CUP and SIG Lithotopo units (The SIG Lithotopo unit has the highest road density compared to the other Lithotopo units); this should reduce the overall road density for the Area particularly with respect to bull trout habitat.

Fertilizers that reach surface waters can be toxic to fish or may alter primary and secondary production, influencing the amount and type of food available to fish (Spence *et al.* 1996). According to Simpson, fertilizer will not be applied in riparian or wetland conservation areas (Simmons, 2000). Simpson has been conducting amphibian surveys for two years; they will continue with this survey work, and expand it to include water sampling, which should prove useful in determining if adverse impacts are occurring in fish as well. Simpson will report their findings on an annual basis to a Scientific Advisory Team (SAT) that will evaluate the results. Should adverse effects be occurring, adaptive management discussions will be initiated pursuant to Section 10.

In addition to the minimization and mitigation measures proposed for the Mainstem areas, primarily used as migration corridors by bull trout, bull trout will also benefit from the conservation plan elements for the Steep Tributary habitat, as bull trout spawning habitat is located in those areas.

The amount of take for any one proposed permit species in the Mainstem Association is moderate at most. All of the species in this association are relatively well distributed thus minimizing the impacts of take. The proposed minimization and mitigation measures implemented under the Plan should reduce the impacts to all these species including the western

toad and threatened bull trout. Therefore, because the mitigation and minimization measures in the proposed Plan are commensurate with the impacts, it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable with regard to bull trout, Dolly Varden, torrent sculpin, longnose dace, Pacific lamprey, river lamprey, and western toad.

3.2.3. Headwater Species Association

According to the Biological Opinion, the number of Olympic torrent salamanders, and Cope's giant salamanders anticipated to be taken is small; the number of tailed frogs anticipated to be taken is moderate, and the number of western redback salamanders anticipated to be taken is high. The number of individuals of these species expected to be taken is directly related to the number of individuals expected to occur on the Plan Area during the proposed permit term, and due to the level of protection provided by the proposed Plan. The western redback salamander is the most common salamander found in Washington, Oregon, and Vancouver Island, and is often the most common salamander found on the forest floor.

Proposed Permit Species in the Headwater Association are often found in clear, cool to cold mountain streams with course gravel and cobble substrates. The western red-back salamander is unique in that they are more terrestrial, they inhabits a variety of micro-habitats including moist talus slopes, decaying logs and under moss cover on the forest floor. These aquatic-dependent species rely on cool to cold water and gravel cobble substrates.

The most important habitat in these streams for these species consists of large logs, cobbles and boulders. Potential primary habitat for headwater species likely occurs in channel classes CUP-C1 (199.9 stream miles), C2 (22.9 miles) and C3 (24.5 miles); SIG-Qo1 (38.3 miles); AGL-Qo1 (61.3 miles) (Table 26 Simpson Plan). These classes are in Type 4 and 5 streams, and are represented by a total of 347 miles of stream channel in the Plan Area. Type 4 streams are perennial or have fish, and Type 5 streams are intermittent.

The CUP C-1, AGL-Qo1 and SIG-Qo1 channel class streams fall under the Unstable/Intermittent Riparian Strategy. In these channel classes, buffers are continuous for Type 4 streams, (66 feet from the channel disturbance zone), or either continuous or discontinuous for Type 5 streams. Type 5 streams receive protection in the form of 80 trees per 1,000 feet unless adjacent to unstable slopes that are upstream from perennial non-fish bearing streams (i.e., have continuous buffers). In these cases, riparian protection would be increased on streams through designation of a continuous buffer adjacent to the channel. All discontinuous buffers would be placed to enhance recruitment of LWD and provide protection for stream breeding amphibians, by conserving key amphibian habitat components (i.e., seeps and springs) along Type 5 streams which are not associated with unstable slopes.

The Cup-C-2 and C-3 channel classes fall under the Canyon Riparian Strategy, which would primarily function to provide LWD from off site, and to maintain on-site shade and detrital inputs. The purpose of this strategy is to maintain the sediment and organic matter storage capacity of the upper channel network, and supply detritus to the channel as its principle energy source. No harvest is proposed in the near future in these stands; most were logged for the first time only in the 50's and 60's and no streamside trees were retained at that time. Leave areas would not be uniform width, but concentrated in areas that have a high probability of

contributing LWD to the channel network. Leave areas would be placed to maintain refugia for stream breeding amphibians (Plan Appendix B: Riparian Guidelines).

As proposed in the Riparian Conservation Program, experimental thinning would not occur within the RCR along channel classes associated with Headwater species habitat. This is significant, because most of the species (except western redback salamander) are strong in-stream associates. These species could be directly affected by timber harvest should it occur in the riparian area. However, because experimental thinning is restricted in the RCR where these have been identified, these species should not be directly affected by experimental thinning.

Timber harvest in upland areas outside of the RCR buffers could cause increased sedimentation, siltation, and water temperature in headwater species habitat. Temperatures within aquatic systems used by stream temperature-sensitive amphibians, such as headwater species, could be raised, resulting in habitat degradation or even elimination in some reaches. This situation would occur in the areas where unstable slopes do not exist and, consequently, where timber would be harvested outside of RCR buffers.

According to the proposed Upland Slope Management Plan, timber would not be harvested on unstable slopes and construction of roads would be avoided on areas with a 60 percent or greater slope (road management plan). The combination of the riparian buffers (including additional area within the CDZ) and the Upland Slope and the road management plans should minimize the potential for increased sedimentation and siltation. Another minimization measure associated with the Unstable Slope Management Plan relates to the course woody debris (CWD) that should develop as a result of harvest not occurring on these slopes. Logs or CWD are important to the redback salamander for cover, and although old-growth logs are no longer common in the Plan Area, Simpson has proposed to retain all that remain. Additionally, the size of the buffers along streams, which comprise the redback salamander habitat, should provide a moderate amount of medium (12-24 inch diameter) and large (greater than 24 inch diameter) logs in the future.

The potential for adverse impacts due to increased stream temperatures may also be substantially reduced through implementation of the proposed Canyon Riparian Strategy. The Canyon Riparian Strategy would primarily function to provide LWD and detrital inputs from off site, and more importantly for the Olympic torrent salamander, maintain on-site shade.

Sediment impacts to Olympic torrent salamander streams from roads in the Plan Area would thus likely decline within the first 6 to 10 years of the Plan and would be highly reduced by year fifteen of the Plan, benefitting Headwater association species.

Recent studies have shown that high levels of nitrate and nitrite can significantly deform amphibians, inhibit their behavior, and even cause significant levels of death to some Pacific Northwest pond-breeding amphibian populations (Marco et al. 1999). The proposed riparian protection along Type 4 and 5 streams would significantly reduce the potential impacts to Headwater species from exposure to nitrogenous fertilizers. In addition to monitoring abundance of the stream breeding amphibians and western toads in relation to the proposed management prescriptions, Simpson has also proposed to monitor how amphibians are affected by operational

application of nitrogenous fertilizers. Simpson proposes to continue its ongoing research in this area, and expand it to include water sampling and surveys for larval abnormalities of pond breeding amphibians. Adaptive management would be applied to modify the prescriptions relative to results of the research monitoring program.

Simpson has developed a research and monitoring program to answer the fundamental question: *Are amphibians adversely affected by operational application of nitrogenous fertilizers*? Simpson has been conducting amphibian surveys for two years . They will continue with this survey work and expand it to include water sampling and surveys for larval abnormalities of pond breeding amphibians. Simpson will report their findings on an annual basis to a Scientific Advisory Team that will evaluate the result, and, should adverse effects be occurring, discuss measures to eliminate exposure of amphibians to nitrogenous fertilizers. If significant adverse effects are indicated by the data, adaptive management discussions will be initiated pursuant to Section 10. The Science Advisory Team ("SAT") will be composed of individuals from the NMFS, USFWS, EPA, the Squaxin and Skokomish Indian Tribes, the Quinault Indian Nation, the Washington Departments of Fish and Wildlife, Ecology, and Natural Resources, and a wildlife and fisheries scientist representing Simpson. Other scientists from academia or private industry may be invited to join as needed. The SAT team will provide peer review and recommendations on study design, methods and analysis and associated adaptive management. They will meet, at a minimum, on an annual basis and will be responsible for making decision related to the Plan.

In addition to the fertilizer adaptive management, one of the Wildlife Monitoring questions is focused on the relative abundance and distribution of stream breeding amphibians such as Olympic torrent salamander. The threshold for triggering adaptive management is a decline in relative abundance or distribution. This element of the adaptive management program provides additional assurance that the level of minimization will be commensurate with the level of take.

Headwater species may be adversely affected by proposed electrofishing activities which would be used as part of the research and monitoring of the prescriptions in the proposed Plan. To minimize these potential impacts, electrofishing would be done according to Service-approved protocols, which minimizes risk to fish, and may or may not reduce risks to amphibians as well. If the Service finds that electrofishing is harming amphibians, it may revise the protocol to minimize adverse effects to amphibians. The Service-approved protocols minimize risk to by limiting voltages, amperages, sampling period, and season. Use of electrofishing is proposed to be limited and would be used for "last fish" distribution monitoring only, which would entail only one pass through the same stream reach. Proposed instream activities, including electrofishing, could also result in trampling of adult Headwater species, juveniles, or eggs. However, since only one pass would be made in each stream being monitored, there is a low probability of this occurring. If fish are discovered in areas where they are currently not known to exist (in stream reaches currently identified as non-fish bearing (i.e., Type 5 streams)), then the buffers on these stream reaches would be changed from discontinuous to continuous and expanded to 66 feet measured at the CDZ. This would provide long term benefits to mitigate the short-term impacts of electrofishing.

Because the amount of take, level of impact, status of the species (Biological Opinion) and the level of conservation in the proposed Plan, it is the Service's finding that Simpson has minimized

and mitigated its impacts to the maximum extent practicable with regard to Olympic torrent salamander, Tailed frog, Cope's giant and western redback salamanders.

3.2.4. Steep Tributary Species Association

According to the Biological Opinion, the number of coastal cutthroat, shorthead sculpin and Van Dyke's salamanders anticipated to be taken is small. The number of individuals of these species expected to be taken is directly related to either the number of individuals expected to occur on the Plan Area or the taxon's status (coastal cutthroat), and due to the level of protection provided by the proposed Plan.

The mitigation proposed in the subject Plan would provide substantial habitat and would likely improve existing habitat for proposed permit species in the Steep Tributary Association throughout the proposed permit term. The proposed management prescriptions for steep tributary areas in the Plan Area would provide protection for important habitat features and function, and help reduce the adverse effects of increased sedimentation and/or increased stream temperature resulting from proposed road management and timber harvest in the Plan Area.

Impacts to proposed permit species in the Steep Tributary Association would primarily occur due to increased sedimentation and siltation of streams from thinning, road building and maintenance activities in the RCR and upland areas, and timber harvest in upland areas. Also in addition to the proposed conservation programs, impacts on Headwater species from harvest in upland areas should be minimized through implementation of the riparian strategies associated with the headwater channel classes (CUP, AGL and SIG): the Canyon and Unstable/Intermittent Riparian Strategies. The AGL-Qo1 and SIG-Qo1 channel classes fall under the Unstable/Intermittent Riparian Strategy. In these channel classes (Type 5 streams), buffers are discontinuous unless adjacent to unstable slopes that are upstream from perennial non-fish bearing streams (i.e., have continuous buffers). In these cases, riparian protection would be increased on streams through designation of a continuous buffer adjacent to the channel. Discontinuous buffers are proposed to be placed to enhance recruitment of LWD and provide protection for stream breeding amphibians by conserving key amphibian habitat components (i.e., seeps and springs) along Type 5 streams which are not associated with unstable slopes.

The riparian management area widths for the coastal cutthroat trout and shorthead sculpin (channel class AGL-Qo1 which encompasses 61.3 miles of streams), will have a minimum of 3.0 acres of no harvest leave area per 1000 feet of channel, will have a minimum width of 20 meters on the windward aspect of the stream, and a minimum width of 10 meters on the leeward aspect. This riparian management area will be measured from the channel disturbance zone. Where fish are not present and Van Dyke's salamanders may occur, 80 trees per 1,000 feet of channel will be retained (equal in size distribution and species characteristics to the per-harvest stand) and will be left in at least 0.5 acre patches.

The other riparian management strategy designed for the steep tributary association species are the CUP-C2 (22.9 stream miles), CUP-C3 (24.5 stream miles), and CUP-C4 (4.9 stream miles). These riparian management areas will have an average width of 25 meters (minimum of 15 meters) measured from the channel disturbance zone. No harvest will be allowed within these

riparian areas. The riparian management area widths for the coastal cutthroat trout and shorthead sculpin (channel class AGL-Qo1 which encompasses 61.3 miles of streams), will have a minimum of 3.0 acres of no harvest leave area per 1000 feet of channel, will have a minimum width of 20 meters on the windward aspect of the stream, and a minimum width of 10 meters on the leeward aspect. This riparian management area will be measured from the channel disturbance zone. Where fish are not present and Van Dyke's salamanders may occur, 80 trees per 1,000 feet of channel will be retained (equal in size distribution and species characteristics to the per-harvest stand) and will be left in at least 0.5 acre patches.

The potential for adverse impacts due to increased temperature may also be reduced through implementation of the proposed Canyon Riparian Strategy. The Canyon Riparian Strategy would primarily function to provide LWD and detrital inputs from off site. The riparian buffers proposed are based on the geomorphology and the hydrologic function unique to each stream class. Those proposed buffer boundaries were assigned specifically to maintain adequate wood loading in the channel network by considering how log recruitment processes vary for each channel class. Overall, this proposed management is expected conserve approximately 95 percent of the areas that could potentially provide future LWD to these streams. This large woody debris would provide deeper pools required by older and larger cutthroat trout and shorthead sculpin, especially during extreme low flow years.

The proposed road management program (see Section 5.2.4 of the Plan) would reduce sedimentation and siltation entering streams utilized by species in the Steep Tributary Association, but effects would likely occur throughout much of the Plan Area. Simpson would limit road construction through riparian areas. Impacts in the form of lost acreage from road construction in the RCR would be mitigated. Any new roads constructed under the Plan would be built according to best management practices and standards.

Additionally, sediment impacts to streams from road remediation activities in the Plan Area would decline within the first six to ten years of the Plan, and would be ostensibly reduced by year fifteen of the Plan because the 100 percent of road remediation projects would be completed by that time. The combination of minimizing road construction in riparian areas, the use of best management practices in new road construction, as well as completing all road remediation projects by year 15 of the permit period, should reduce the impacts to lentic species through implementing the prescriptions of the Road Management Plan.

Although Type 4 and 5 streams are not afforded the same protection as Type 1 - 3 streams under the State Forest Practice rules, the Service anticipates that the use of fertilizers as proposed, will be less intensive in these areas due to the Unstable Slope Management Program. It is assumed, and was verified by Simpson, that since Simpson is not harvesting on unstable slopes that there will be no need to fertilize young newly planted trees in these areas (Personal Communication N. Phil Peterson, Biologist, Simpson Timber Company 10/5/2000). The RCR buffers extend to the perennial stream channel network up into type 4 and 5 streams. It is assumed that if fertilizers are applied in these areas, water sampling will be conducted to determine whether exposure of aquatic species and adverse impacts are occurring. Simpson is also avoiding spreading fertilizer on roads and ditch lines due to the potential for accumulation (particularly in ditches) resulting in a flush of fertilizer during storm event in fall (a period when fertilizer is applied) (Simmons, 2000).

As discussed in the previous section on Headwater Association species, Simpson would perform electrofishing as a survey method as part of their research activities. The same effects and benefits would also apply to coastal cutthroat trout, shorthead sculpin, and Van Dykes salamanders.

Because the amount of take, level of impact, status of the species (Biological Opinion) and the level of conservation in the proposed Plan, it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable with regard to shorthead sculpin, coastal cutthroat trout, and Van Dyke's salamander.

3.2.5. Flat Tributary Species Association

According to the Biological Opinion, the number of riffle sculpin and brook lamprey anticipated to be taken is moderate; the number of coast range sculpin and speckled dace anticipated to be taken is small; the number of reticulate sculpin anticipated to be taken is small-moderate. The number of individuals taken is directly related to the number expected to occur on the Plan Area during the permit term, and due to the level of protection provided by the proposed Plan. All of these proposed permit species are relatively well distributed and not as risk such that they are listed by any State or Federal agency.

The Flat Tributary Species Association are mainly distributed within four lithotopo units (LTUs) in the Plan Area; the Alpine Glacial (AGL), the Recessional Outwash Plain (ROP), Crescent Islands (CIS), and the Sedimentary Inner Gorge (SIG) LTUs, and eighteen channel classes within these; the AGL–Qo4 (2.6 stream miles), Qo5 (8.8 miles), Qo7 (3.7 miles), the ROP–Qc2 (103.4 miles), Qc3 (44.2 miles), Qc4 (9.1 miles), Qc5 (12.1 miles), Qc6 (9.5 miles), the CIS–Qc2 (28.0 miles), Qc3 (16.8 miles), the SIG–Qa6 (11.3 miles), Qo2 (19.0 miles), L2 (38.5 miles), M2 (18.5 miles), M3 (9.6 miles), M4 (6.0 miles), and M6 (2.3 miles) (Table 26, Plan). Riparian buffers for these channel classifications (total of 343.4 miles) range from a minimum (average) of 66 to 131 feet, and all are identified as no harvest with the exception of some limited (up to 632 acres of Flat Tributary Association RCR areas) experimental thinning.

The mitigation proposed in the subject Plan would provide substantial habitat and would likely improve existing habitat for proposed permit species in the Flat Tributary Association throughout the proposed permit term. The proposed management prescriptions for flat tributary areas in the Plan Area would provide protection for important habitat features and function, and help reduce adverse effects. Impacts to these species would be due primarily to increased sedimentation and siltation of streams from thinning, road building and maintenance activities in the RCR and upland areas and timber harvest in upland areas.

The establishment of buffers along streams and wetlands in the RCR and wetland conservation areas should minimize impacts from thinning and minimize impacts from upland harvesting of timber. The widths of the riparian buffers would be measured from the outer edge of the channel migration zone (CMZ), channel disturbance zone (CDZ), or the outer edge of the break-in-slope (BIS) edge, depending on channel class. This method that Simpson is implementing of providing riparian conservation buffers, based on the geomorphology and hydrologic function unique to each channel class, provides greater assurance that areas with direct and indirect influence on the

streams would be conserved. The buffers widths assigned to various channel classifications would be also be expected to minimize impacts from upland timber harvest. These buffers would likely reduce the impacts of upland timber harvest on the aquatic community because according to the peer-reviewed literature, buffers at least 100 feet wide are thought to minimize impacts from timber harvest on these stream types.

Many Flat Tributary Associated channels are in a gradient range such that wood is required to develop and maintain pool habitat. In channel segments that have substantially low levels of LWD (as described above) result in fewer pools and an overall diminished rearing potential. The addition of wood to those channels will tend to shift them into a forced pool/riffle channel morphology (Montgomery and Buffington 1997) which benefits older year classes of riffle sculpin and speckled dace, which require pool habitat. Large woody debris will primarily be recruited to the aquatic system from the buffers established under the RCR and Wetland Conservation Areas.

Fine sediment derived from road surface erosion will settle out in slack water areas and may infiltrate riffles. Improved road management practices should result in an overall reduction in chronic fine sedimentation of streams and the catastrophic failure of road fills and sidecast that generate and propagate hillslope and channel failures. Riffle sculpin will benefit from these reductions of fine sediment because of the reduced amount of sediment filling of the interstitial space needed for their breeding and larval development. Since all three sculpin species in this association have substantially similar life history strategies and habitat use, it is expected that they all will benefit in a similar fashion and to roughly the same degree.

Additionally, sediment impacts to streams from road-remediation activities in the Plan Area would decline within the first six to ten years of the Plan, and would be ostensibly reduced by year fifteen of the Plan; because the 100 percent of road remediation projects would be completed by that time. The proposed combination of minimizing road construction in riparian areas, the use of best management practices in new road construction, as well as completing all road projects by year 15 of the permit period, should substantially reduce the impacts to species in the Flat Tributary Association through implementing the prescriptions of the Road Management Plan.

The Service expects that little of any, fertilizer will be applied in the riparian and wetland conservation areas because there will be no timber harvest in the RCR and Wetland Conservation Area and, although some riparian areas may be experimentally thinned, there will be no need to fertilize these stands in riparian or wetland areas. Therefore, the RCR buffers and wetland conservation areas buffer will be the default buffers used to apply fertilizer (Simmons, 2000). . These buffers are at least twice as wide as the buffers recommended in the WAC 222-38-0030 for type 1-3 streams. In the event that there is concern that fertilizer is being deposited during aerial application into the riparian areas, Simpson is willing to conduct monitoring to determine potential effects. Electrofishing effects and benefits are similar to those described in the Headwater Association section.

The amount of take for any one proposed permit species in the Flat Tributary Association is moderate at most. All of the species in this association are relatively well distributed and do not warrant listing by a State or Federal agency. Because the mitigation and minimization measures

in the proposed Plan are commensurate with the impact, and the Plan provides for the biological requirements of the species, it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable with regard to riffle sculpin, coast range sculpin, reticulate sculpin, speckled dace and brook lamprey.

3.2.6. Lentic Species Association

Based upon the analysis presented Biological Opinion the number of prickly sculpin, Olympic mudminnow, threespine stickleback, northwestern salamander, long-toed salamander, and red-legged frog anticipated to be taken is small when compared to the status of these taxa rangewide. Take is generally expected to be largely minimized. The proposed action would maintain and improve important lentic habitat for prickly sculpin, Olympic mudminnow, threespine stickleback, northwestern salamander, long-toed salamander, and red-legged frog. Management prescriptions, as proposed would substantially reduce the adverse effects of increased sedimentation and increased stream temperatures resulting from proposed road management and timber harvest. Because the various distributions of the subject six lentic associated species are not likely continuous across the Plan Area, only a fraction of the acres and proposed activities have the potential to adversely affect these taxa.

As proposed in the Riparian Conservation Program, some harvesting of forested wetlands would occur, while most riparian or wetland potential habitat for subject lentic species would be largely conserved (see Table 7 in the Plan). As proposed, substantial riparian buffer zones would be unharvested or thinned, retaining high to moderate function habitat for lentic species. Proposed upland harvest, thinning, yarding, and road building/maintenance would likely adversely affect northwestern salamanders, long-toed salamanders, and red-legged frogs where they utilize upland habitats (particularly near riparian zones) during subterranean life-stages. These impacts are partially minimized by proposed unstable slope management (see Section 5.2.5 of the Plan). As proposed, some experimental thinning would likely occur in RCRs along slow streams in the Plan area that lentic species utilize, but if performed properly, this experimental thinning would improved habitat function for lentic species in the long-term. Approximately 10,604 acres of non-forested wetlands and their buffers (see table 4.8 FEIS) would be protected as proposed. Buffers widths would vary according to hydro-geomorphic classification (HGM) (see Plan Section 5.2.3.1 for description of use of HGM in wetlands inventory program). Thinning would not be permitted within the inner 33 feet of these buffers, and as much as 50 percent of the tree stems could be thinned in the outer residual buffer width. Trees remaining after thinning would be similar in size and species to those present prior to thinning.

The establishment of buffers along streams and wetlands in the RCR and wetland conservation areas should minimize impacts to lentic systems from thinning and minimize impacts from upland harvesting of timber. The buffers widths assigned to various channel classifications would be expected to minimize impacts from upland timber harvest to lentic systems because they should be at least 100 feet wide, which is attributed to minimizing most impacts to streams from timber harvest according to the peer reviewed literature.

All forested wetlands in RCRs would be protected from harvest, and approximately 2,793 acres of forested wetlands (not connected with riparian areas) would be protected from harvest. This represents 75 percent of the forested wetland acreage outside the riverine riparian conservation

areas (EIS 4.5). In addition to the buffer prescriptions applied to non-forested and forested wetlands in the Plan Area, when non-forested wetlands of any hydrogeomorphic class occur as a mosaic of small wetlands, the entire area will be managed as a "wetland complex," with the most restrictive hydrogeomorphic class present established, and management restrictions applied (Plan Section 5.2.3.2.). The Stillwater River area within the ROP Lithotopo unit in the Plan Area contains an extremely high density of such wetland complexes, which are important to lentic species such as the northwestern salamander.

The proposed road management program (see Section 5.2.4 of the Plan) would reduce sedimentation and siltation entering streams utilized by lentic species. Simpson would limit roads construction through riparian areas. Impacts in the form of lost acreage from road construction in the RCR would be mitigated. Any new roads constructed under the Plan would be built according to best management practices and standards Additionally, sediment impacts to streams from road remediation activities in the Plan Area would decline within the first six to ten years of the Plan, and would be ostensibly reduced by year fifteen of the Plan; because the 100 percent of road remediation projects would be completed by that time. The combination of minimizing road construction in riparian areas, the use of best management practices in new road construction, as well as completing all road projects by year 15 of the permit period, should reduce the impacts to lentic species through implementing the prescriptions of the Road Management Plan.

To address the adverse impacts resulting from water quality degradation, the proposed action includes a Total Maximum Daily Load (TMDL) agreement that the applicant would implement to fulfill their obligations under the Clean Water Act. The TMDL is not a component of the Plan but is linked through the adaptive management; it offers a direct measurement of instream conditions, which will provide a means of directly measuring the effectiveness of the riparian prescriptions.

The Service expects that little, if any, fertilizer will be applied in the riparian and wetland conservation areas because there will be no timber harvest in the RCR and Wetland Conservation Area and, although some riparian areas may be experimentally thinned, there will be no need to fertilize these stands in riparian or wetland areas. However, the adaptive management program on fertilizer effects on amphibians provides additional assurances that effects will be minimized and mitigated.

Based on the species-specific analysis of the likely amount of take, level of impact, and proposed applied conservation measures, it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable, with regard to prickly sculpin, Olympic mudminnow, threespine stickleback, northwestern salamander, long-toed salamander, and red-legged frog.

3.2.7. Harlequin Duck

According to the Biological Opinion the number of harlequin ducks anticipated to be taken is small, mainly because of the low number of harlequin ducks expected to occur within the Plan Area (or Assessment Area) during the proposed permit term, and due to the level of protection provided by the proposed Plan. This species is not assigned any state or Federal status and it is widely distributed throughout its range. Harlequin ducks are very sensitive to human disturbance.

Harlequin ducks forage in, and nest along, fast flowing Type 1-3 streams. Prescriptions in the Plan will establish 19,619 acres of riparian buffers along Type 1-5 streams, including unstable slopes in riparian areas. This protection would be implemented through the Riparian Conservation Reserve (RCR) system. This riparian protection will provide a high degree of protection, and potential recruitment for harlequin nesting and foraging habitats. The Wetlands Conservation Program (Section 5.2.3) will protect all key habitat (streams and associated riparian habitat) through application of prescriptions that buffer wetlands areas. No salvage of standing dead or downed trees will be permitted in the RCR (Section 5.2.1(c)), which will maintain existing loafing and nesting habitat. The Plan contains road management measures (Section 5.2.4) that are designed to reduce sediment loads into riparian systems, improving water quality, and thus harlequin duck habitat. Implementing the road program to improve and decommission roads, will reduce the rate of sediment loading to aquatic systems and help maintain high water quality, improving foraging habitat for harlequin ducks. Improved road maintenance under the Plan will help mitigate impacts. Road decommissioning will also reduce the risk of disturbance to nesting harlequin ducks in the long term. Nesting harlequin ducks will be protected by a timing restriction wherein Simpson will refrain from timber harvesting, road construction and blasting within 0.25 miles of known nesting harlequin ducks, unless an acceptable alternate distance and operation plan is agreed to by the Services.

The number of harlequin ducks anticipated to be taken is small and the mainly because of the low number of harlequin ducks expected to occur within the Plan Area (or Assessment Area) during the proposed permit term, and due to the level of protection provided by the proposed Plan. Because the mitigation and minimization measures in the proposed Plan are commensurate with the impact, and the Plan provides for the biological requirements of the species, it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable with regard to harlequin duck.

3.2.8. Band-tailed Pigeon

According to the Biological Opinion on the subject proposed action, the number of band-tailed pigeon anticipated to be taken is low-moderate. The species is widely distributed and its status is such that it is not listed by any State or Federal agency.

Mitigation and minimization measures for band-tailed pigeons includes: protection of any mineral springs discovered on the Plan Area; refraining from issuing special forest products harvesting permits for the harvest plants typically utilized as forage by band-tailed pigeons, and; conserving approximately 30,000 acres of riparian and wetland buffers and unstable slopes that will provide nesting habitat.

The mitigation proposed in the Plan would provide and conserve substantial habitat during the proposed permit term. The proposed management prescriptions and required take avoidance measures would provide protection for important habitat features and function, and help reduce the adverse effects proposed activities. Because the mitigation and minimization measures in the proposed Plan (and the required take avoidance for herbicide use) are commensurate with the potential impacts of the proposed Plan, it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable with regard to band-tailed pigeon.

3.2.9. Roosevelt Elk

According to the Biological Opinion, the number of Roosevelt elk anticipated to be taken is low, mainly because of the moderate number of Roosevelt elk expected to occur within the Plan Area during the proposed permit term, and due to the level of protection provided by the proposed Plan. This species is conserved on substantial public lands within the forests of Pacific Northwest.

The Road Management Plan will have the greatest impact on minimizing the disturbance of these animals by human activity. As part of the Road Management Plan, road closures will be implemented on at least 30 percent of the area within Elk Management Emphasis Areas. The partial road closures proposed would significantly reduce human and vehicle presence in portions of the Plan Area and increase the habitat utility of portions of the Plan Area for the species. At least 50 percent of the roads decommissioned will be seeded to promote the development of forage for elk. This will be repeated on an annual basis.

Although the declines have been recently reported within the range of the species, current population numbers and foreseeable habitat condition trends do not warrant significant concern regarding the species continued existence. Because the mitigation and minimization measures in the proposed Plan are commensurate with the impact and the Plan provides for the biological requirements of the species it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable with regard to Roosevelt elk.

3.2.10. Snag Dependent Species

Snag dependent species are classified according to class based on tree size preferred by the species. For this Finding the snag dependent species are combined and the minimization and mitigation measures discussed accordingly. The number of western bluebirds, purple martins red-breasted sapsuckers Chestnut backed-chickadees, hairy woodpeckers, western screech owls, northern pygmy owls, northern saw-whet owls, pileated woodpeckers, wood ducks and common mergansers anticipated. to be taken as a result of implementing the covered activities is small. The number of downy woodpeckers, black-capped chickadees, tree swallows violet-green swallows , northern flickers, anticipated to be taken as a result of implementing the covered activities is moderate. The level of take is related to the numbers of individuals anticipated to use the Plan Area during the proposed permit term, and due to the level of protection provided by the proposed Plan. All the species within these classifications are well distributed and are not assigned any State or Federal status.

Covered snag dependent bird species habitat could be negatively affected under the proposed action due to the loss of large and medium snags from upland areas outside of any conservation areas under Simpson's 45-50 year rotation schedule outside conservation areas, due to timber harvest associated with the experimental thinning program proposed under the Plan, and due to new road construction requiring timber harvest. Covered snag dependent birds may experience competition within and between species for snag habitats concentrated in the RCR and wetland conservation zones, resulting in failure to nest in any given year.

Proposed permit snag dependent bird species habitat could be negatively affected under the proposed action due to the loss of large and medium snags from upland areas outside of any conservation areas, due to timber harvest associated with the experimental thinning, and due to new road construction requiring timber harvest. Pileated woodpeckers and chestnut-back chickadee will benefit from conservation of approximately 823 acres (72 percent) of the 1,138 acres of existing stands of old-growth and approximately 4,951 acres of coniferous forest older than 70 years in the Plan Area. In addition to conservation, by year fifty 26,078 acres of forests older than 70 years in the conservation areas will develop, as will an estimated minimum of 1,991 acres of early stage old-growth stands (greater than 120 years-old and minimum 5 acre stands).

All old-growth cull logs found within management units will not be cut-up for firewood, cedar shakes or otherwise removed as a result of Plan management, preserving a critical habitat component of pileated woodpecker, hairy woodpecker, and northern flicker nesting and foraging habitat, and western screech owl, northern pygmy owl and northern saw-whet owl prey base habitat. Wetland Conservation Area buffers will also provide medium and large logs in riparian areas in the Plan Area, increasing the amount of foraging habitat for these species over the life of the plan (Plan 1999). The snags and green leave trees provided in the Plan Area would be widely distributed due to the wide riparian conservation zones. This includes conservation provided along Type 4 and 5 streams and buffers on both forested and non-forested wetlands. The Supplemental Wildlife Tree conservation Program conserves eight trees per acre at least ten inches DBH for each section in the Plan Area, that currently does not meet this eight trees per acre threshold. Four of the eight trees per acre will be dominant trees (average of 14-16 inches DBH), and all eight require an 800-foot spacing.

No salvage of standing dead or downed trees will be permitted in the RCR, maintaining permitted cavity nesting species. Late-Seral Forest Reserves total 6,415 acres in the Plan Area, and are relatively large contiguous areas of forest, ranging in size from 263 to 1,234 acres (average 713 acres), connected to adjoining forests conserved in the RCR network. Late-seral forest reserve's will maintain existing mature forest (50-100 years-old) and old-age forests (more than 100 years-old), allowing trees within them to grow to old-age, providing core habitats within snag dependent bird species home ranges and refuges where those populations are expected to be sustained during the Plan period.

During the first 25 years of the plan period a majority of the forests in all of the late-seral forest reserves will be greater than 50 years old and by the end of the Plan period a majority will be older than 70 years. High concentrations of conservation areas interspersed within a matrix of younger forest habitat are expected to provide the best opportunities to sustain snag dependent bird species with large home ranges such as the pileated woodpecker. The combination of the RCR, late-seral forest reserves, Wildlife Tree Conservation and Wetland Conservation Program will result in conservation of 33,4012 additional acres of riparian, wetland, and unstable slopes. There would be a total of approximately 25 potential recruitment trees averaged per acre of the 261,000 acres in the Plan area. A majority of these trees will be a minimum of thirteen inches DBH.

The amount of take for any one snag dependent proposed permit species in the is moderate at most. All of the species in this association are well distributed and does not warrant listing by a State or Federal agency. Because the amount of take, level of impact, status of the species (Biological Opinion) and the level of conservation in the proposed Plan, it is the Service's finding that Simpson has minimized and mitigated its impacts to the maximum extent practicable with regard to snag dependent species.

3.3 Simpson Timber Company will ensure that adequate funding for the Plan is provided

Simpson has provided assurances that it will provide adequate funding for implementing the Plan in the form of a letter to Anne Badgley (Regional Director, Region 1, U.S. Fish and Wildlife Service) from Colin Moseley (Chairman, Simpson Timber Company) dated May 30, 2000. Specifically, the letter states that although Simpson is unwilling to provide financial records or reports, the Chairman can confirm that:

> " ...Simpson has sufficient funds to meet all of its obligations under its Plan. Simpson has a substantial net worth. The company owns timberlands and other properties in Washington, Oregon, and California. Its Washington timberlands consist of more than 287,000 acres. These timberlands are fully paid for and unencumbered. .... Actual out-of-pocket expenditures required under the plan (e.g., for monitoring, road remediation, seeding and reporting) are not likely to exceed $1,000,000 to $2,000,000 in any given year. This amount represents only a small fraction of Simpson's typical annual operating budget."

3.4. The IA and Plan contain detailed procedures to address changed and unforeseen circumstances

3.4.1 Changed Circumstances

In accordance with 50 CFR 17.32, the Appendix F of the Plan includes a detailed discussion of reasonably foreseeable events that could occur during the permit term and adversely affect the proposed permit species. These "changed circumstances" include fire, wind, landslides, insect infestations, Swiss needle cast, ice and severely cold weather, earthquakes, and the outcome of the current litigation between Simpson and the U.S. Forest Service regarding the "Sustained Yield Unit of the Olympic National Forest".

Appendix F of the Plan contains the supplemental prescriptions for six of the eight identified changed circumstances (Fire, Wind, Landslides, Insect Infestations, Swiss Needle Cast, and Ice

and Severely Cold Weather). The supplemental prescriptions only address earthquakes to the extent that earthquake-caused landslides will be addressed by supplemental prescriptions for landslides. Floods that are less than 100-year occurrences in magnitude are addressed by the existing prescriptions in the Plan. Floods that are larger in magnitude are not reasonably foreseeable within the permit period, and are not considered changed circumstances.

With respect to the changed circumstance on the current litigation between Simpson and the U.S. Forest Service, Simpson and the Services will meet to establish mutually agreeable supplemental prescriptions should Simpson, prevail in its litigation against the U.S. Forest Service, and habitat in the Olympic National Forest be modified as a result.

The definition of changed circumstance in 50 CFR Part 17 specifically identifies the listing of a new species as an example of a changed circumstance. Section 9.3 of the IA for the Simpson Plan states that Simpson will not take any listed species that is not a proposed permit species, unless and until the permit is amended to add such a species or Simpson is otherwise not precluded by applicable law from taking such species.

3.4.2 Unforeseen Circumstances

In contrast to changed circumstances, unforeseen circumstances are by definition circumstances that affect a species or the geographic area covered by the Plan that could not have reasonably been anticipated by the USFWS and Simpson at the time the Plan was developed. Consistent with 50 CFR Part 17, the USFWS may not require Simpson to commit additional land, water, or financial compensation or additional restrictions on the use of land, water or other natural resources in response to an unforeseen circumstance without Simpson's consent. However, because the Plan incorporates adaptive management provisions, the likelihood of unforeseen circumstance occurring is low.

If an unforeseen circumstance occurs, the Services may require Simpson to provide mitigation beyond that provided for in the Plan, but only in accordance with, and to the extent permitted by, the current regulations contained in 50 CFR 17.22, and 17.32., or in accordance with mandated modification of those regulations.

The USFWS finds that the Plan and IA include procedures to address changed and unforeseen circumstances consistent with 50 CFR Part 17.

3.5. The taking will not appreciably reduce the likelihood that the species will survive and recover in the wild.

The legislative history of the ESA demonstrates the intent of Congress that for listed threatened or endangered species this finding is to be based on a determination of "not likely to jeopardize" under section 7(a)(2) of the ESA. As a result, the proposal to issue an incidental take permit has also been reviewed under section 7 of the Act. In the BO and Conference Opinion, the USFWS

concluded that issuance of an incidental take permit to Simpson based on the Plan would not be likely to jeopardize the continued existence of the 46 proposed permit species or any other currently listed species.

In the BO the Service also determined that the proposed action would not be likely to result in destruction or adverse modification of critical habitat designated for the marbled murrelet or northern spotted owl. No other designated critical habitat would be potentially affected by issuance of an incidental take permit based on the Plan.

Based on the analyses in the Service's BO and Conference Opinion and in NMFS's combined BO and Findings (NMFS 2000), the Service concludes that the issuance of the permit is not likely to appreciable reduce the likelihood of the proposed permit or any other listed species survival and recovery in the wild.

3.6. Other measures and assurances required by the Services have been provided

The Services and Simpson entered into an Implementation Agreement and the Service will impose Permit Conditions. Permit conditions are described in Appendix B of this document. The Plan, IA, and permit conditions incorporate all elements determined by the Services to be necessary for approval of the Plan and issuance of the incidental take permit. As elaborated in the Plan, the Applicant would implement effectiveness monitoring including Total Maximum Daily Load (TMDL) monitoring requirements, and report results to the Services as part of its continuing duty to report to the Services. The Services would monitor compliance in accord with its responsibilities to implement section 10 of the Act and under its more general duty to enforce the Act.

Simpson would prepare an annual report that describes the results of all monitoring activities carried out during the preceding calendar year. Monitoring reports will be completed and submitted to the Service by March 30 of each year.

Simpson has provided a number of assurances to the Service that the management prescriptions designed to minimize and mitigate impacts from the proposed covered activities will be carried out. These assurance include:

- Utilizing minimization and mitigation which is often based upon opportunity costs rather than the need for affirmative funding. For instance, riparian buffers, unstable areas, and other leave tree areas will result in less income for Simpson that might otherwise have occurred, but will not require advance funding.
- Initiating implementation of the prescriptions in advance of approval of the Plan and issuance of the Permit. For instance, for 1999 and 2000, between 80 and 90 percent of their harvest units were in compliance with proposed riverine riparian protection guidelines that were under consideration for the Plan (pre and post public comment period), and wetland buffers were approximately 50 percent compliant with proposed Plan prescriptions during the same time period (Personal Communication E. Keith

Simmons, Manager Harvest Planning and Engineering, Simpson Timber Company, 9/20/2000).

- Development of a very site-specific landscape-based approach to their riparian management areas, incorporating the influences of the geologic setting and associated physical processes by stratifying the landscape into "lithotopo units" rather than application of general buffer sizes based solely on stream classification (i.e., non-fish bearing) with no opportunity for customization.

3.7. The Services have received the necessary assurances that the plan will be implemented.

The signing of the IA by Simpson and the Services assures that the proposed Plan will be implemented. The proposed incidental take permit would be conditioned on Simpson's compliance with the Plan and IA. The significant effort in time and money contributed by Simpson to the development of the Plan and ongoing funding provisions also demonstrate Simpson's commitment to implement the Plan.

4.0 GENERAL CRITERIA AND DISQUALIFYING FACTORS - ANALYSIS AND FINDINGS

The Service has no evidence that the permit should be denied on the basis of the criteria and conditions set forth in 50 CFR 13.21(b)-(c). The applicant has met the criteria for the issuance of the permit and does not have any disqualifying factor that would prevent the permit from being issued under current regulations.

5.0 RECOMMENDATION ON PERMIT ISSUANCE

Based on the foregoing analyses and findings, I recommend issuance of a permit to authorize incidental taking of bull trout, marbled murrelets, bald eagles, and 43 additional unlisted permit species should they be listed within the life of the permit.

Approve: _____ 10/12/00
Assistant Regional Director — Date

Concur: _____ 10/12/00
Deputy Regional Director — Date

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Appendix A

General Comparison Between the Simpson Plan,
the Washington State Forest Practices Rules, and
the Forest and Fish Emergency Rule Management Prescriptions

As part of this analysis, a general comparison was done between the Simpson Plan and the Washington State Forest Practices Rules and the Forest and Fish Emergency Rule management prescriptions (hereafter referred to as the Rules) (See TablesA-1, A-2, and A-3).

Private landowners that have not completed a habitat conservation plan (HCP) are required to manage their land according to the Rules. These rules were put in place to promote conservation of important riparian function to enhance habitat for listed salmonids. The premise behind these rules is that they are conservative and are designed to enhance and maintain aquatic habitat through riparian protection. Rules are broadly designed and applied, as they are intended to be used to manage lands in both Eastern and Western Washington. The scope of the implementation of the Rules ranges in western Washington from Canada to Oregon, and is applied to a variety of conditions. Therefore, the premise of these rules is that they are conservative and are designed to provide protection for aquatic systems from varied land types.

A landowner does not have to follow Rules if they have prepared an HCP and agree to manage their lands by implementing conservation programs and prescriptions to conserve listed species. Habitat Conservation Plans are site-specific and are tailored to the conservation requirements of the habitats and species using those habitats. An HCP doesn't need to incorporate the same management required under the State Fores Practice Rules but instead must satisfy the mandatory elements of the HCP and the issuance criteria of the Incidental Take Permit (50 CFR Part 17).

The Service is presenting this general comparison of the Simpson Plan with the Rules to demonstrate that while other private landowners must manage their lands according to the Rules, Simpson has developed a plan which is superior to these rules. The development of this Plan by Simpson using scientifically-based riparian management prescriptions developed by stratifying the landscape into areas of similar lithology and topography exceeds the conservation provisions in the Rules. Since other private landowners are required to manage their land according to the Rules, and the Simpson Plan is superior to these rules, it contributes to demonstrating that Simpson has minimized and mitigated the impacts of the proposed Covered Activities to the maximum extent practicable.

The Riparian Conservation Reserve in the Plan was established based on riparian functional boundaries. Simpson has adopted a stream classification that is based on the longitudinal and hill slope connections within the channel networks in forested landscapes. Where fish (all fish, including sculpins and lamprey, not just game fish) are not present 80 trees per 1,000 feet of channel will be retained (equal in size distribution and species characteristics to the per-harvest stand) and will be left in at least 0.5 acre patches. In these channel classes buffers are discontinuous unless adjacent to unstable slopes that are upstream from perennial non-fish

bearing streams (i.e., have continuous buffers). The Rules incorporate a Riparian Variable Management Zone (RMZ) with a minimum of 50 feet un-managed buffer in the RMZ to a maximum of 2/3 site-potential-tree-height. State Forest Practices also incorporate a short continuous buffer along the RMZ, and then at higher elevation only an equipment exclusion zone is left. State Forest Practices allow some management in the RMZ; the Plan excludes management with the exception of 1000 acres of experimental thinning to promote late-seral stage stand development. The channel classification scheme developed by Simpson, and the subsequent buffer assignments allows Simpson to assign riparian strategies that reflect important riparian functions under different landscape conditions.

The Road Management Plan developed by Simpson is superior to that followed under Rules because: 1) under the Rules a landowner is required to prepare a road Plan within 5 years of the Rules (2005), and all roads must meet road maintenance and abandonment standards by year 15 of the Rules, and 2) the landowner negotiates the cost/benefit of conducting the road projects with the Washington State Department of Natural Resources. Under the Plan: 1) 100 percent of the road projects will be completed by year 15 of the permit period, 2) roads that have the greatest potential for failure will be remediated, decommissioned, or laid dormant will be addressed first, 3) Simpson has an unlimited budget for road projects until year 15 of the Permit Period, and thereafter will spend up to $250,000/year, 4) Simpson has 4 years of decommissioning roads in place at the present time, and 5) Simpson will decommission roads in riparian areas. The plan is superior to that specified in the Rules because Simpson is willing to complete all road related projects irregardless of the cost until year 15 of the plan period, there is no need to negotiate road projects or with DNR or conduct cost/benefit analysis, they will fix the worst roads first, they have already begun decommissioning roads on the Plan Area, and finally they are prepared spend up to $250,000/year for the duration of the permit period.

Under the Unstable Slope Management Plan a slope stability analysis for the entire Plan Area will be completed within 5 years of the permit period. Unstabe Slope management under the Plan is consistent with the measures identified in the Rules.

The largest difference between the Plan and the Rules in the Wetland Management arena relates to protection of forested wetlands. Under the Rules forested wetlands get no protection unless they are connected to riparian or non-forest wetlands. Under the Plan ,50 percent of the stem density is conserved in forested wetland >1.0 acre.

The Plan developed by Simpson exceeds the conservation required under the Rules. The buffers assigned in the RCR are designed to enhance the function of the riparian areas in a way that the generic fish presence/absence buffers may not. The road program is not restricted either by negotiations with the State or because of economic reasons. The wetland program designed in the Plan conserves riparian habitat important to many bird and amphibian species.

Table A-1. Comparison between the Washington State Forest Practice Rules with the Forest and Fish Emergency Rule and the Simpson Habitat conservation Plan for Lentic Species Association

Species Association		
Management Prescription	Lentic Species Association Prickly sculpin, Olympic mudminnow, Threespine stickleback, Northwestern salamander, Long-toed salamander, Red-legged frog	
	Simpson Plan	State Forest Practices, Forest and Fish Report Emergency Rule
Riparian Reserves	Variable Riparian Conservation Reserve (RCR) specific to the size and vegetation class (i.e., forested, scrub/shrub). No harvest on riverine wetlands or those associated with unstable slopes. Thinning of 50% of trees in outer buffer except for forested wetlands 0.5 < 1.0 acre including bogs and fens >0.25 acre. Buffers provided on all wetlands < 0.25 acres. Wetlands are classified using a hydrogeomorphic model. When non-forested wetlands occur as a mosaic of small wetlands the entire area will be managed as a "wetland complex". Stream and bog associated wetlands are incorporated as part of the RCR.	Minimum of 75 trees per acre that are >6inch DBH with 25 of those >12inch DBH in buffer varying by wetland size : >5 acre, 100 ft buffer 0.5<5 acre, 50 ft buffer 0.25<0.5, unbuffered bogs and fens: 50 ft buffer Forested wetlands have variable protection only if riverine or non-forested wetland connected with riparian or non-forest wetland conservation.
Road Management	Seventy five percent of road projects will completed by year 11 of the HCP. The budget for road design construction and maintenance is unlimited. The road inventory will be completed by year 5 of the permit period. Road construction will be avoided on steep slopes (>60%).	Road maintenance plan will be developed for the Plan Area within 5 years it could take up to 15 years to complete the projects identified in the Road Plan. The land-owner negotiates the cost/benefit of conducting the road projects with the Washington State Department of Natural Resources (DNR). Roads in riparian management zone (RMZ) are mitigated on a basal area basis.
Unstable Slopes	All unstable slopes identified in watershed analysis. No management on unstable slopes.	No management activities conducted on unstable slopes where identified and judged to deliver debris[1]. Unstable slopes are generic pre-defined land forms. Management on unstable slopes requires a Class IV permit application and State Environmental Policy Act (SEPA) review. Therefore, DNR judges the sediment delivery potential of the unstable slope. State-wide/regional addition/modification of unstable landforms has yet to occur.
Wetland Management	Discussed under riparian management	Discussed under riparian management

Table A-2. Comparison between the Washington State Forest Practice Rules with the Forest and Fish Emergency Rule and the Simpson Habitat conservation Plan for Flat Tributary and Mainstem Species Association

Species Association		
Management Prescription	Flat Tributary/Mainstem Riffle sculpin, Coast Range sculpin, Reticulate sculpin, Speckled dace, Brook lamprey, Bull trout, Dolly Varden , Torrent sculpin , Longnose dace , Pacific lamprey, River lamprey, Western toad	
	Simpson Plan	State Forest Practices, Forest and Fish Report Emergency Rule
Riparian Reserves	Variable Riparian Conservation Reserve (RCR) specific to channel class and function; No silviculture in RCRs except for experimental thinning. RCRs provided on all streams. Channel Migration Zones (CMZs) are delimited by geomorphic surface, and are unmanaged.	Variable Riparian Management Zone (RMZ) depending on age, species dominance, stocking, site productivity and management option. Emphasis on structural treatment to achieve a desired future condition. Minimum of 50 ft un-managed RMZ to a maximum of ⅔ site-potential-tree-height. Salvage to riparian forest floor late succsessional course woody debris loading. Short continuous buffers in RMZ on nonfish-bearing streams then only equipment limitation zone. Provision of channel migration zone (CMZ) along certain large channels to include the statistical limit of the expected channel movement.
Road Management	Seventy five percent of road projects will completed by year 11 of the HCP. The budget for road design construction and maintenance is unlimited. The road inventory will be completed by year 5 of the permit period..Disconnect road-side ditches from delivery to aquatic systems. Road construction will be avoided on steep slopes (>60%).	Road maintenance plan will be developed for the Plan Area within 5 years it could take up to 15 years to complete the projects identified in the Road Plan. The land owner negotiates the cost/benefit of conducting the road projects with the Washington State Department of Natural Resources (DNR). Roads in RMZ are mitigated on a basal area basis.
Unstable Slopes	All unstable slopes identified in watershed analysis or incorporated in RCRs (inner gorges) in some LTUs.	No management activities conducted on unstable slopes where identified and judged to deliver debris[1]. Unstable slopes are generic pre-defined landforms. Management on unstable slopes requires a Class IV permit application and State Environmental Policy Act (SEPA) review. Therefore, DNR judges the sediment delivery potential of the unstable slope. State-wide/regional addition/modification of unstable landforms has yet to occur.
Wetland Management	Discussed under riparian management in Lentic Species Association.	Discussed under riparian management in Lentic Species Association.

Table A-3. Comparison between the Washington State Forest Practice Rules with the Forest and Fish Emergency Rule and the Simpson Habitat conservation Plan for Headwaterand Steep Tributary Species Association

Species Association		
Management Prescription	**Headwater/Steep Tributary** Torrent salamander, Tailed frog, Cope's giant salamander, Western redback salamander Cutthroat trout Shorthead sculpin, Van Dyke's salamander	
	Simpson Plan	State Forest Practices, Forest and Fish Report Emergency Rule
Riparian Reserves	Variable Riparian Conservation Reserve (RCR) specific to channel class and function; No salvage; No silviculture in RCRs except for experimental thinning; RCRs provided on all fish-bearing streams with minimum of 80 trees/thousand feet or continuous; 160 trees/1000 feet in continuous array with unstable slope/debris torrent potential.	Variable Riparian Management Zone (RMZ) depending on age, species dominance, stocking, site productivity and management option. Emphasis on structural treatment to achieve a desired future condition. Minimum of 50 ft unmanaged RMZ to a maximum of ⅔ site-potential-tree-height. Salvage to riparian forest floor late succsessional course woody debris loading. Short continuous buffers in RMZ on nonfish-bearing streams then only an equipment exclusion zone.
Road Management	Seventy five percent of road projects will completed by year 11 of the HCP. The budget for road design construction and maintenance is unlimited. The road inventory will be completed by year 5 of the permit period. Disconnect road-side ditches from delivery to aquatic systems. Road construction will be avoided on steep slopes (>60%).	Road maintenance plan will be developed for the Plan Area within 5 years it could take up to 15 years to complete the projects identified in the Road Plan. The land-owner negotiates the cost/benefit of conducting the road projects with the Washington State Department of Natural Resources (DNR). Roads in RMZ are mitigated on a basal area basis.
Unstable Slopes	All unstable slopes identified in watershed analysis. No management on unstable slopes.	No management activities conducted on unstable slopes where identified and judged to deliver debris. Unstable slopes are generic pre-defined landforms. Management on unstable slopes requires a Class IV permit application and State Environmental Policy Act (SEPA) review. Therefore, DNR jusges the sediment delivery potential of the unstable slope. State-wide/regional addition/modification of unstable landforms has yet to occur
Hydrologic Maturity	Emphasis on recruiting large woody debris in the CUP, SIG and AGL.	Avoid significant increase of peak flows. General hydrologic Resource objective. Assumes land-owner will monitor direct changes.
Wetland Management	Discussed under riparian management in Lentic Species Association.	Discussed under riparian management in Lentic Species Association.

Appendix B

U.S. Fish and Wildlife Service, Portland, Oregon
Special Terms and Conditions for Permit TE 032463-0

A. General conditions set out in subpart D of 50 CFR 13, and specific conditions contained in Federal Regulations cited in block #2 above, are hereby made a part of this permit. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local or other federal law.

C. Valid for use by permittee named above.

D. Further conditions of authorization are contained in the attached Special Terms and Conditions.

E. The authorization granted by this permit is subject to full and complete compliance with, and implementation of, the Implementation Agreement (IA), executed by the Permittee, the U.S. Fish and Wildlife Service (Service) and the National Marine Fisheries Service, and those portions of the Habitat Conservation Plan expressly incorporated therein. Simpson shall be responsible for ensuring compliance with the Habitat Conservation Plan by any Simpson authorized officer, employee, contractor, or agent while conducting covered activities.

F. Permittee, and its authorized officers, employees, contractors, and agents are authorized to incidentally take only the Permit Species listed in Table 1 in the course of otherwise lawful covered activities, as such activities are described in the IA and Habitat Conservation Plan.

G. Migratory Birds other than Bald Eagle. This section 10(a) permit also constitutes a Special Purpose Permit under 50 CFR 21.27 for the take of those Permit Species subject to incidental take which are listed as threatened or endangered under the Endangered Species Act of 1973 as amended, and which are also protected by the Migratory Bird Treaty Act, except for the Bald Eagle. Such Special Purpose Permit shall be valid for a period of 3 years from the effective date, provided the section 10(a) permit remains in effect for such period. Such Special Purpose Permit shall be renewed, provided that the Permittee continues to fulfill its obligations under this agreement. Each such renewal shall be valid for the maximum period of time allowed by 50 CFR 21.27 or its successor at the time of renewal.

H. Bald Eagle. The Service will not refer the incidental take of any bald eagle, *Haliaeetus leucocephalus*, for prosecution under the Migratory Bird Treaty Act or 1918, as amended (16 U.S.C. §703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §668-668d), provided that such take results from covered activities conducted in accordance with the Habitat Conservation Plan on lands covered by this permit.

I. Permittee shall notify the Service of new locations of listed Permit species that are discovered within the area covered by the Habitat Conservation Plan, including, but not limited to marbled murrelets, *Brachyramphus marmoratus*, and bald eagles. Permittee shall also notify the Service of locations of other species listed as threatened or endangered that are not permit species but may be discovered within the area covered by the Habitat Conservation Plan, such as but not limited to the Northern spotted owl, *Strix occidentalis caurina*, and the Gray wolf, *Canis lupus*.

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Special Terms and Conditions for Permit TE 032463-0

J. Upon locating any dead, injured, or sick individuals of any listed species covered by this permit, Permittee shall, within 3 working days, notify the Service's Western Washington Fish and Wildlife Office, Lacey, Washington (tel: 360-753-9440). Instructions for proper handling and disposition of such specimens will be issued at that time. Care must be taken in handling sick or injured specimens to ensure effective treatment and care, and in the handling of dead specimens to preserve biological material in the best possible state.

K. Permittee shall refer to permit number TE032463-0 in all correspondence and reports concerning permit activities. Any questions you may have about this permit should be directed to the Field Office Supervisor, U.S. Fish and Wildlife Service, Western Washington Fish and Wildlife Office, Lacey, Washington (tel: 360-753-9440).

L. All applicable provisions of this permit must be presented and clearly explained to all authorized officers, employees, contractors, or agents of Permittee conducting covered activities.

M Reporting requirements: Permittee shall submit implementation reports to the Service's Western Washington Fish and Wildlife Office as per the Habitat Conservation Plan (Habitat Conservation Plan Sections 8.2 and 8.3), or as amended by mutual consent between the Service and the Permittee.

N. A permittee is not required to obtain a new permit if there is a change in the legal individual or business name, or in the mailing address of the permittee. A permittee is required to notify the issuing office (Portland Regional Office) within 10 calendar days of such change. This provision does not authorize any change in location of the conduct of the permitted activity when approval of the location is a qualifying condition of the permit.

O. To the extent provided in the IA, all sections of Title 50, Code of Federal Regulations, Part 13, Part 17.22, and Part 17.32 are conditions of the permit. If any such regulations are modified, any future action taken with respect to this permit shall be in accordance with such regulations in existence at the time such action is taken except as specifically otherwise provided for by law or in the IA.

P. The permit authorization for take associated with the vertebrate control described in Section 1.5 of the Habitat Conservation Plan is limited to take resulting from either lethal or live trapping means of flat tail beavers (*Castor canadensis*) associated with roads where activities of such beavers pose a reasonably foreseeable risk to the integrity of one or more roads, including but not limited to erosion of the road surfaces, plugging of culverts and failure of road fills. Control of mountain beaver (*Aplodontia rufa*) is not a covered activity.

Q. These additional permit conditions control over any contrary terms in the general conditions or authorizations.

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Special Terms and Conditions for Permit TE 032463-0

Table 1. Permit species in Simpson Timber Company Northwest Operations Habitat Conservation Plan

Mammals:
Roosevelt elk, *Cervus elaphus Roosevelti*

Birds:
*Bald Eagle, *Haliaeetus leucocephalus*
*Marbled Murrelet, *Brachyramphus marmoratus*
Band-tailed Pigeon, *Columba fasciata*
Harlequin Duck, *Histrionicus histrionicus*
Downy woodpecker, *Picoides pubescens*
Black-capped chickadee, *Parus atripcapillus*
Chestnut-backed chickadee, *Parus rufescans*
Western Bluebird, *Sialia mexicana*
Purple martin, *Progne subis*
Red-breasted sapsucker, *Sphyrapicus ruber*
Tree swallow, *Tachycineta bicolor*
Violet-green swallow, *Tachycineta thalassina*
Hairy woodpecker, *Picoides villosus*
Western screech owl, *Otus kennicottii*
Northern pigmy owl, *Glaucidium gnoma*
Northern saw-whet owl, *Aegolius acadicus*
Northern flicker, *Colaptes auratus*
Pileated woodpecker, *Dryocopus pileatus*
Wood duck, *Aix sponsa*
Common merganser, *Mergus merganser*

Fish:
*Bull Trout, *Salvelinus confluentus*
Pacific lamprey, *Entosphenus tridentatus*
River lamprey, *Lampetra ayresi*
Brook lamprey, *Lempetra richardsoni*
Cutthroat trout, *Oncorhynchus clarki clarki*
Shorthead sculpin, *Cottus confusus*
Riffle sculpin, *Cottus gulosus*
Coast Range sculpin, *Cottus aleuticus*
Reticulate sculpin, *Cottus perplexus*
Torrent sculpin, *Cottus rotheus*
Prickly sculpin, *Cottus asper*
Speckled dace, *Rhinichthys osculus*
Longnose dace, *Rhinichthys cataractae*
Dolly varden, *Salvelinus malma*
Olympic mudminnow, *Novumbra hubbsi*
Threespine stickleback, *Gasterosteus aculeatus*

Amphibians:
Torrent salamander, *Rhyacotriton olympicus*
Long-toed Salamander, *Ambystoma macrodactylum*
Northwestern Salamander, *Ambystoma gracile*
Cope's giant salamander, *Dicamptodon copei*
Red-legged Frog, *Rana aurora*
Tailed Frog, *Ascaphus truei*
Van Dyke's Salamander, *Plethodon vandykei*
Western Redback Salamander, *Plethodon vehiculum*
Western toad, *Bufo boreas*

*Listed as threatened under the Endangered Species Act at time of permit issuance.